



UNIVERSITY OF
**HEALTH SCIENCES
& PHARMACY**

in St. Louis

ACADEMIC CATALOG

2022-2023

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PURPOSE

The academic catalog is provided for informational purposes only and is not a contract. It describes information of interest to current and prospective students in effect at the time of its publication, including, for example, academic program and course descriptions, graduation requirements, University policies, the academic calendar, tuition and fees, and housing at University of Health Sciences and Pharmacy in St. Louis.

NOTICE OF CHANGES

University of Health Sciences and Pharmacy in St. Louis reserves the right to change, modify, add to or delete any of the content, policies or requirements set forth in this Academic Catalog without advance notice at any time unless otherwise stated in writing by the University. Circumstances out of the University's control including but not limited to natural disasters, pandemics, and campus destruction may alter University facilities, operations, services, and activities such as the academic calendar, course offering formats and delivery, or residence halls operations. By matriculating admitted students agree that the University reserves the right, in its discretion, to modify, retain, reallocate, refund, or modify tuition and fees to offset the impact of unforeseen circumstances on its students, programs, activities, and operations. Changes in course descriptions, faculty and Board of Trustees or other information after the Academic Catalog is published will be announced in University communications and reflected on the University's website.

ABOUT THE UNIVERSITY

OUR MISSION

To educate and advance communities of discovery to foster a healthier society.

OUR VISION

University of Health Sciences and Pharmacy in St. Louis will be a transformational leader in health education and research.

Review the University of Health Sciences and Pharmacy in St. Louis mission, vision and values at uhsp.edu/about/mission-vision-values.html.

VALUES

- Discovery
- Diversity
- Inclusion
- Integrity
- Respect
- Service

HISTORY

Founded in 1864 as St. Louis College of Pharmacy, University of Health Sciences and Pharmacy in St. Louis has educated innovators and leaders who impact health care locally, nationally and globally. The University includes the College of Arts and Sciences, the College of Global Population Health, the College of Graduate Studies, and St. Louis College of Pharmacy, the third-oldest college in the United States and the oldest college of pharmacy west of the Mississippi River. At University of Health Sciences and Pharmacy in St. Louis, we educate the whole student through a challenging curriculum taught through the lens of health care. We offer undergraduate, graduate and professional degrees that prepare students for a variety of health professions careers and lays the perfect foundation for professional or graduate studies. Surrounded by one of the nation's preeminent biomedical complexes, the University provides exceptional education, research and practice opportunities for students to best prepare them for a dynamic career in health care. The University offers a full student-life experience, including more than 65 student organizations and NAIA athletics. The student body includes nearly 800 students representing 29 states and 25 countries.

The University's more than 8,500 living alumni reside and practice in 50 states and 15 different countries, providing a strong network that assists students with their goals.

The University is located on nine acres within the Washington University Medical Campus. Our location allows us to actively forge partnerships with nearby institutions such as Washington University School of

Medicine in St. Louis, University of Missouri-St. Louis, and Goldfarb School of Nursing at Barnes-Jewish College.

In addition to our undergraduate, master's and professional degrees, the University provides, through partnerships with neighboring institutions, pathways for students to complete graduate and professional study in a variety of health care fields.

- Integrated Pharm.D. and MBA or Graduate Certificate in Business Administration offered in partnership with University of Missouri-St. Louis
- Integrated "3+2" bachelor's degree and Master of Science (M.S.) in Occupational Therapy, offered in partnership with Washington University School of Medicine in St. Louis
- Integrated "3+3" bachelor's degree and Clinical Doctorate of Occupational Therapy (OTD), offered in partnership with Washington University School of Medicine in St. Louis
- Doctor of Physical Therapy (DPT) through a "4+3" pathway with three spaces reserved each year, offered in partnership with Washington University School of Medicine in St. Louis
- Bachelor of Science (B.S.) in Nursing, offered in partnership with Goldfarb School of Nursing at Barnes-Jewish College through a dual admission "2+2" or "4+1" pathway
- Reserved interview slots exclusively for UHSP students applying for general admission to A.T. Still University Kirksville College of Osteopathic Medicine's Doctor of Osteopathic Medicine (DO) program or the Doctor of Dental Medicine (DMD) program, in partnership with A.T. Still University Missouri School of Dentistry and Oral Health, who meet the minimum admission requirements. Additionally, UHSP students can apply to A.T. Still University's Still Scholars Early Acceptance Program.

COLLEGES

College of Arts and Sciences

The College of Arts and Sciences oversees many Bachelor of Arts and Bachelor of Science undergraduate programs. This college is housed in Jones Hall. Faculty of the College of Arts and Sciences have offices located on the second, fourth and fifth floors.

Ehren Bucholtz, Ph.D., is the interim dean of the College of Arts and Sciences, which includes the Department of Liberal Arts and the Department of Basic Sciences. He also serves as the director of the Master's in Medicinal Chemistry program and professor of chemistry.

St. Louis College of Pharmacy

St. Louis College of Pharmacy oversees the professional Doctor of Pharmacy. This college is housed in the Academic and Research Building. Faculty of St. Louis College of Pharmacy have offices located on the third, fourth and sixth floors.

Terri L. Warholak, RPh, Ph.D., CPHQ, FAPhA, will serve as the 16th dean of St. Louis College of Pharmacy beginning Aug. 15, 2022. The college includes the Department of Pharmaceutical and Administrative Sciences, Department of Pharmacy Practice and Office of Experiential Education.

College of Global Population Health

UHSP's College of Global Population Health was founded with a mission to be a multi-faceted change agent in improving the health of populations locally and across the globe.

Led by Founding Dean David Steeb, Pharm.D., MPH, the college is dedicated to providing students with a global educational experience that will help them become leaders who can transform the health and well-being of communities locally and worldwide.

The college serves as the primary home for the University's global and population health-related academic and research programs, while also helping to grow University engagement with the St. Louis community to promote health equity and positively impact health outcomes.

College of Graduate Studies

The College of Graduate Studies oversees administration of master's and graduate certificate programs. In addition, it leads activities designed to enrich the experience of postdoctoral trainees, so they can pursue a wide range of professional career options. The administrative offices of the college are located on the third floor of the Academic and Research Building.

Giovanni Pauletti, Ph.D., is the dean of the College of Graduate Studies, which includes graduate faculty from the College of Arts and Sciences, College of Global Population Health, St. Louis College of Pharmacy and various partner institutions.

ACCREDITATION

University of Health Sciences and Pharmacy in St. Louis' Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Master of Science (M.S.) and Doctor of Pharmacy (Pharm.D.) are accredited by the Higher Learning Commission. The Pharm.D. is also accredited by the Accreditation Council for Pharmacy Education.

The Higher Learning Commission

230 S. LaSalle St.,

Suite 7-500

Chicago, IL 60604-1413

Phone: 312.263.0456

Fax: 312.263.7462

hlcommission.org

Accreditation Council for Pharmacy Education

190 S. LaSalle St.,

Suite 2850

Chicago, IL 60603-3410

Phone: 312.664.3575

Fax: 866.228.2631

acpe-accredit.org

STUDENT CONSUMER INFORMATION

Consumer information (e.g., graduation rates, student demographic information, financial aid programs and campus crime statistics) is located on the University's public website at uhsp.edu/policies/student-consumer-information.html.

CAMPUS

LOCATION AND FACILITIES

The nine-acre campus is located in the heart of St. Louis' Central West End with Barnes-Jewish Hospital, St. Louis Children's Hospital, Washington University School of Medicine in St. Louis and Goldfarb School of Nursing at Barnes-Jewish College. An interactive campus map is available at uhsp.edu/about/campus/maps.html.

North Residence Hall provides first-year- and sophomore-level students with comfortable on-campus living options, located on the fifth through seventh floors of the Recreation and Student Center.

South Residence Hall provides upper-level students with flexible, apartment-style living, with options to live independently or with roommates. South Residence Hall also houses the Business Office on the first floor, as well as a Chick-fil-A and Starbucks. The residence halls are card access only and each room includes expanded basic cable, Swank Movie services, and Wi-Fi and comes fully furnished with an extra-long twin bed, desk, dresser and closet for each resident.

Jones Hall is home to classrooms, research and instructional laboratories and administrative offices including the Office of the President, College of Arts and Sciences, College of Global Population Health, and Technical Support Center.

The Academic and Research Building (ARB) features research and clinical skills laboratories, technologically advanced classrooms, the library, flexible gathering space and the auditorium, as well as administrative and faculty offices including St. Louis College of Pharmacy, the College of Graduate Studies, Office of Admissions, Office of Financial Aid and Office of the Registrar. In addition, the ARB houses research laboratories, including the Center for Clinical Pharmacy and the Center for Health Outcomes Research and Education.

The Recreation and Student Center, which opened in fall 2017, is a seven-story, 193,000-square foot building that includes North Residence Hall, dining and recreation facilities, a fitness center, gymnasiums, the Multicultural Center, the Student Success Center, Center for Career Services and Education, Spirituality Center and administrative offices including the Office of Campus Life and Office of Diversity, Equity and Inclusion.

LIVING on CAMPUS

Occupancy in University-owned or operated residence halls is required for all undergraduate students during the fall and spring semesters of their first-year, sophomore and junior years. Living on campus is a significant aspect of the University of Health Sciences and Pharmacy in St. Louis educational experience. Recent studies show that students who live on campus are more likely to:

- Have a higher grade point average
- Express greater satisfaction with their undergraduate educational experience and receive more academic and emotional support from other students
- Personally know and spend time outside of class with faculty members
- Graduate on time

Because of the greater likelihood of student academic and personal success, the housing requirement is strictly enforced. University of Health Sciences and Pharmacy in St. Louis is committed to its students and seeing them persevere and succeed.

Any student requiring an exception must submit a formal letter of appeal outlining their reasoning to the assistant director of residential life and student engagement. All exceptions that are requested must be made in writing to be considered. Exception waivers will only be granted on a case-by-case basis and in cases of extenuating circumstances. Any student who has not received a written waiver in response to their exception request will continue to bear full financial responsibility in accordance with the annual room and board fee schedule published by the University.

Living in our residence halls provides students opportunities to relax, study and socialize without commuting to and from campus. Upper-level students serve as Resident Assistants (RAs) in North Residence Hall and Community Liaisons (CLs) in South Residence Hall and live on site to help students transition seamlessly to the University, answer questions and offer advice. A full-time staff member also lives on site and is always available to assist students.

First-year- and sophomore-level students reside in the 220-bed North Residence Hall. North Residence Hall is located on the fifth through seventh floors of the Recreation and Student Center and is secure with a card-access-only entry for residents.

The North Residence Hall bedrooms are double occupancy rooms shared by two people. Bathrooms join two rooms and are shared by four people. Each room includes expanded basic cable, Swank Movie services and Wi-Fi and comes fully furnished with an extra-long twin bed, desk, dresser and closet for each resident.

Upper-level students and some sophomores reside in South Residence Hall. South Residence Hall offers single and double occupancy rooms as well as suites that include four single-occupancy bedrooms that are connected by a living room. A limited number of upgraded suites with kitchenettes are also available, which include two sofas, two chairs, two end tables and an entertainment center. The living area of the South Residence Hall is secure with a card-access-only entry for residents. North and South Residence Hall amenities include:

- Common area for relaxing and socializing
- Study lounges
- Community kitchenette
- Free unlimited laundry facilities
- Vending machines
- Mailroom
- 24/7 security
- Hall Desk for Students
- Free Wi-Fi
- Basic cable TV and movie streaming

Contact reslife@uhsp.edu or 314-446-8164

Meal Plans

North Residence Hall residents must purchase a minimum point package for meals that provides 15 balanced meals per week and may opt to purchase a larger meal plan if desired. South Residence Hall residents must purchase a minimum point package for meals that provides 12 balanced meals per week and may opt to purchase a larger meal plan if desired. Additional points may be purchased, but unused points will not carry over to the next school year.

To apply for housing, students must submit a housing contract and an online housing security deposit of \$250. Board cost has two components: food and overhead; 70% of the board charge goes towards food and the remaining 30% goes towards operations such as maintenance of facilities, cleaning and housekeeping, utilities, etc.

PARKING

The University of Health Sciences and Pharmacy in St. Louis Parking and Traffic Regulations have been designed to facilitate the safe and orderly flow of traffic, provide maximum use of parking areas, facilitate access for emergency vehicles and promote pedestrian, cyclist and vehicular safety.

The University offers three options for student parking. The Children's Place Garage is located on the University's campus on Children's Place, the Duncan Central Garage is located across from campus on the eastside of Taylor Avenue, and the S. Kingshighway lot is located south of campus and offers a dedicated shuttle to and from campus.

For more information, visit uhsp.edu/parking.

CAMPUS SECURITY REPORT AVAILABILITY

In compliance with the Jeanne Clery Disclosure of Campus Security Policy and Crime Statistics Act (Clery Act) and the Higher Education Opportunity Act of 2008, the University publishes an annual security report (ASR) which contains the preceding three calendar years of crime and fire statistics. These reports also contain the University's campus safety and security related policies such as, but not limited to, crime reporting, campus security and access, law enforcement authority, incidents of alcohol and drug use, and the prevention of and response to sexual assault, domestic or dating violence, and stalking.

For the most up to date information, visit uhsp.edu/safety/clery.

Specific questions about the University's Clery Act policies and procedures should be directed to:

Eric Knoll, VP of Operations
314.446.8375
Eric.knoll@uhsp.edu
Jones Hall, Room 1139

Community members, students, faculty, staff and guests are encouraged to report all crimes and public safety related incidents to public safety in a timely manner at **SAFE (ext.7233)** or, for outside the University, call **314.446.SAFE (7233)**. Dial 911 for off-campus emergencies.



Academic Calendar 2022-2023

FALL 2022 SEMESTER

August 14, Sunday
Move-In Day

August 15-21, Monday – Sunday
Orientation

August 22, Monday
Classes Begin

September 2, Friday
Last day to Add/Drop

September 5, Monday
Labor Day – University Offices Closed/No Classes

October 10-11, Monday & Tuesday
Fall Break – No Classes

November 4, Friday
Last day to Withdraw

November 11, Friday
Founders Day – No Classes

November 23 – 25, Wednesday – Friday
Thanksgiving Break – University Offices Closed/No Classes

November 28 – December 2
Lab Final Examinations Only

December 2, Friday
Last Day of Classes

December 5 – 7, Monday – Wednesday
Final Examination Study Days

December 8 – 9 and 12 – 15
Final Examinations

December 24 – January 2
Winter Break – University Offices Closed

SPRING 2023 SEMESTER

January 16, Monday
Dr. Martin Luther King, Jr. Day
– University Offices Closed/No Classes

January 17, Tuesday
Classes Begin

January 30, Monday
Last day to Add/Drop

March 20 – 24, Monday – Friday
Spring Break – No Classes

March 31, Friday
Last Day to Withdraw

April 24 – 28, Monday – Friday
Lab Final Examinations Only

April 28, Friday
Last Day of Classes

May 1 – 3, Monday – Wednesday
Final Examination Study Days

May 4 – 5 and 8 – 11
Final Examinations

May 13, Saturday
Commencement

May 29, Monday
Memorial Day – University Offices Closed

2023 SUMMER

May 30, Tuesday – June 30, Friday
Summer Session I

June 19, Monday
Juneteenth – University Offices Closed/No Classes

July 3, Monday – August 4, Friday
Summer Session II

July 4, Tuesday
Independence Day – University Offices Closed/No Classes

The University's Academic Calendar is subject to change without notice.

ADMISSIONS

APPLICATION FOR ADMISSION

All students applying for admission to University of Health Sciences and Pharmacy in St. Louis must submit a completed application for admission and all supporting documents. The Office of Admissions reviews applications holistically for admission. The University admits at various points:

1. First-Time, Full-Time (FTFT)
2. Undergraduate Transfer (UGTR)
3. Graduate (GR)
4. Professional Pharmacy Program Year 1 (P1)
5. Visiting
6. Re-Entry

Undergraduate and graduate applications may be found online at uhsp.edu/admissions. Undergraduate applications are also available through the Common Application site at commonapp.org. Paper applications are available by request from the Office of Admissions at admissions@uhsp.edu. First-year professional Pharm.D. students should apply at pharmcas.org. Visiting students may apply at www.uhsp.edu/registrar/visiting/. Re-Entry students should contact the Admissions Office. Other professional students seeking entry (beyond the first professional year) may contact the Office of Admissions.

ADMISSION DECISIONS

Students applying to the University may receive one of the following decisions: Acceptance, Conditional Acceptance, Denial or Deferral. Students may request to have their term or year of entry changed for their application before the tenth day of the semester in which their application is active. The Office of Admissions may request additional information, which may include a personal statement, updated transcripts, letters of recommendation, or an interview, from the applicant in support of the holistic review process for the Admissions Committee. Failure to submit requested items in a timely manner may impact the decision.

Students seeking to participate in the cooperative agreement program between University of Health Sciences and Pharmacy in St. Louis (the University) and Goldfarb School of Nursing at Barnes-Jewish College will have their University of Health Sciences and Pharmacy in St. Louis application and supporting materials reviewed by both institutions for an admission decision to the University for dual-admission at the time of admission for FTFT applicants.

Acceptance

Undergraduate students who are accepted to the University have a spot in the respective incoming fall class until May 1. In order to accept this seat in the class, students must submit an enrollment deposit no later than May 1. After May 1, enrollment deposits will be accepted on a space available basis. Students seeking entry for a spring term must submit an enrollment deposit by January 11 before the start of the spring term.

Conditional Acceptance

Students who are conditionally accepted will be required to satisfy conditions prior to or concurrently with the entering semester. Conditions are determined on an individual, case-by-case basis. Students may or may not have the same conditions as another student. Conditions must be successfully completed. The University reserves the right to rescind a conditional offer of acceptance at any time, even after enrollment, if conditions are not met.

Denial

Students who are denied admission to the University will not be permitted to begin enrollment for the semester. Unless otherwise stated, students who have been denied will be eligible to reapply to the University as early as the next entry term. Students may present new academic information to have their application reconsidered for the original application term.

Student Deferral of Admission

Students who receive an offer of admission will not be guaranteed a spot at any other entry point at the University. Applications and documents will be held for one year from the application term. A student may defer an offer of admission one time by the tenth day of the semester in which the admissions offer was extended.

Original application materials will be considered for a new application. However, additional application materials, such as transcripts from additional coursework, may be requested for courses completed since the original application, for consideration for admission.

Rescinding an Offer of Admission

All offers of admission are contingent upon submitting all final, official documentation related to the admission process. Students admitted prior to completing academic coursework in high school or college will be subject to a final transcript review. The University reserves the right, in its discretion, to rescind an offer of admission for any reason whenever it determines that it is in the best interests of the University including, for example, academic performance, disciplinary reasons, behavior (including social media or other expressive conduct) that is inconsistent with the values of the University, falsification of application information, or failure to meet additional conditions set forth by the Office of Admissions and the Admissions Committee. Once an offer of admission is rescinded, the student may apply to the University at the next term or entry point.

Appealing Admission Decision

Students who have received a conditional offer of admission or have been denied may appeal one time. Appeals will be taken in writing and must be submitted to the Office of Admissions within 10 days of the decision. All admission denials will be final after May 1 and no appeals will be reviewed. Appeals must be formally written and submitted to the Director of Admissions. Admission offers that have been

rescinded will not be eligible to appeal, but students will have the opportunity to apply for the next term unless otherwise noted.

INTERNATIONAL ADMISSION

A United States Immigration and Customs Enforcement (ICE) I-20 Form will not be issued for entry into the U.S. or transfer from another American institution until the applicant has fully satisfied all admission criteria and has been approved for acceptance.

The University reserves the right to require placement exams in math or science, additional verification of English proficiency and an interview. The applicant will be notified if any of the above information is deemed necessary along with scheduled dates and times for testing or an interview.

To be considered for acceptance, all international applicants must submit the following documents in addition to all admissions documents required of U.S. citizens for admission.

- Application requirements for first-year, transfer, graduate or professional students.
- Evidence of English proficiency by submitting a minimum score from one of the accepted tests.

Test of English as a Foreign Language (TOEFL) - Internet Based Test (iBT)- 80 (90) - Computer Based Test (CBT) - 210 (232) - Paper Based Test (PBT) - 550 (576)	EIKEN - 1 *not available for graduate program
International English Language Testing System (IELTS) - 6.5	TOEIC – 685 (755)
Pearson PTE Academic – 58	Cambridge - 176 (175)
E3PT - 68 (75)	CEFR: Cambridge C2 Proficiency - B2
Duolingo - 105 (107)	

- The first score is for undergraduate and professional programs. The second score in parenthesis is for graduate programs.

- The University of Health Sciences and Pharmacy in St. Louis TOEFL code is 6626.

- Official academic records (secondary or college) with official credit evaluation by a credential evaluation service associated with the Association of International Credential Evaluators (AICE) or the National Association of Credential Evaluation Services (NACES). Education Credentials Evaluators (ECE) or World Education Services (WES) is strongly recommended but not required.
- Proof of financial support, equivalent to the cost of attendance for an entire year (excluding scholarship support, while attending University of Health Sciences and Pharmacy in St. Louis. The following documents must be submitted to complete the application:

- A recent bank statement (within the last six months at the time of submission) in the applicant's name showing deposited funds translated into U.S. currency.
- Or a notarized affidavit of support from a sponsor defining the exact amount of funds designated for the student's educational and living expenses while at the University and the period of time for which financial support is pledged (the full name, address and phone number of the sponsor is required).
- If currently in the United States, a copy of the student's status with the U.S. Citizenship and Immigration Service (USCIS) (i.e., I-20, I-94 and Visa). Visa transfer forms, including an I-20 transfer form will be required and can be found on the website at uhsp.edu/admissions/international.

NATIONAL ASSOCIATION FOR COLLEGE ADMISSION COUNSELING

University of Health Sciences and Pharmacy in St. Louis is a member of the National Association for College Admission Counseling (NACAC) and endorses the principles contained in the NACAC Statement of Principles of Good Practice.

UNDERGRADUATE ADMISSIONS

Application Deadlines

- December 1: Early Action and Early Decision deadline for incoming FTFT only for the following fall semester
- December 1: Financial aid scholarship priority deadline
- January 11: Deposit deadline for spring semester entrance for FTFT and UGTR
- March 1: Regular Decision deadline for all levels; FTFT, UGTR, GR and P1
- May 1: Deposit deadline, deadline for undergraduate refund of deposit

First-Time, Full-Time Admission

Students applying for entry as FTFT have the option to submit an application by three different options:

- Early Action
- Early Decision
- Regular Decision

A FTFT applicant is defined as a student who has graduated high school and has not attempted any University coursework beyond the summer following graduation before enrolling at a college or university. University coursework completed to fulfill high school graduation requirements prior to graduation does not exempt a student from applying as a FTFT applicant.

International students must submit requirements for admission in addition to specific documentation noted in the "International Admissions" section.

Early Action

The deadline to apply as FTFT for fall under Early Action is December 1. Students applying for Early Action must submit a completed application and supporting documentation to receive full consideration for admission.

Students applying for Early Action are only required to submit the following items for admission review. We encourage students who have a strong academic record, especially in mathematics and science, to apply during this period. Students who do not receive an Early Action acceptance will automatically be deferred to Regular Decision or asked for supplemental information.

Applications moved to Regular Decision will be asked to submit the requirements for application of Regular Decision.

The following items are required for the Early Action deadline:

- Completed application for admission submitted online at uhsp.edu/apply, through the Common Application or by paper application
- Official high school transcript that includes all work through at least the 11th grade
- (Recommended) a list of current courses and projected spring semester courses.
- (Recommended) letters of recommendation from guidance counselor or science/math teachers.

Early Decision

The deadline to apply as FTFT for fall as Early Decision is December 1. Students applying for Early Decision must submit a completed application and supporting documents to receive full consideration for admission.

Students applying for Early Decision are not encouraged to submit applications under any other Early Decision Agreement. Doing so may make an applicant ineligible for admission under the Early Decision Agreement and would subsequently be moved to Regular Decision. Students admitted under the Early Decision Agreement agree to withdraw all applications to other institutions and submit their Intent to Enroll Form.

The following items are required for the Early Decision deadline:

- Completed application for admission submitted online at uhsp.edu/apply, through the Common Application or by paper application
- Official high school transcript that includes all work through at least the 11th grade
- (Recommended) letters of recommendation from guidance counselor or science/math teachers.
- A mid-year report for current courses and a list of recommended spring semester coursework

If a student who applies for financial aid is not offered a package that makes attendance possible, the student may be released from the Early Decision Agreement. A financial aid package may consist of all or some of the following: scholarships, grants, Federal Work-Study and loans, as reflected on an official student aid report determined by the results of the Free Application for Federal Student Aid (FAFSA).

Regular Decision

The deadline to apply as FTFT for fall as Regular Decision is March 1. Students applying for Regular Decision must submit a completed application and supporting documents to receive full consideration for admission. Applications received from exceptional candidates after December 1 may be accelerated through review process. Spring semester application deadline is January 11 and are only accepted by regular decision.

The following items are required for the Regular Decision deadline:

- Completed application for admission submitted online at uhsp.edu/apply, through the Common Application or by paper application
- Official high school transcript that includes all work through at least the 11th grade

Students may be asked to submit additional supporting items including:

- A mid-year report for current courses and a list of spring semester coursework
- Dual credit or college transcripts
- A personal statement to support admission to the University
- Some students may be invited to interview with the Admissions Committee

*Standardized test scores are optional. If submitted, they will be considered.

GED

A student who obtains a GED certificate will be considered by the Holistic Admissions Committee. Students are encouraged to demonstrate their college readiness by taking introductory university courses within the past five years, taking a standardized college admissions test such as the ACT or SAT, or providing documentation to demonstrate training that has prepared them for the college environment. If the student has under 12 college-level credit hours, additional information or support materials may be requested.

Home-Schooled

All home-schooled students' applications will be reviewed by the Holistic Admissions Committee. To aid in the committee's evaluation, students are encouraged to submit a transcript of completed secondary-level coursework with a detailed description of each course, and college transcripts as appropriate. Evidence of the successful completion of science lab courses equivalent to courses required in an accredited high school for graduation are also encouraged. While not required, students are encouraged to take a college placement exam such as the ACT or SAT to aid in the committee's evaluation process. Home-schooled students may be required to take math, science or English placement exams on enrollment to the University.

Undergraduate Transfer Admission

- Students applying for admission to the University as UGTR will have their transcripts evaluated and will be classified as a first-year student, sophomore, junior or senior based on credits previously earned and which are transferable and applicable at University of Health Sciences and Pharmacy in St. Louis from a regionally accredited institution. Admission will be offered

based on a review of all previous credits earned. An official evaluation by the Office of the Registrar will determine how many credits will transfer and the remaining course of study while at the University. The deadline for full consideration for undergraduate transfer students is March 1 for the fall term and January 11 for the spring term. Applicants applying after this deadline will be considered on a space available basis. Students should also be in good standing (no current academic suspensions, disciplinary suspension, etc.) with all institutions attended prior to University of Health Sciences and Pharmacy in St. Louis.

The following items are required to complete an undergraduate transfer application:

- Completed application for admission submitted online at uhsp.edu/apply, through the Common Application, or by paper application
- All official transcripts from any post-secondary institution attended

Students may be asked to submit additional supporting items including:

- (Recommended) letters of recommendation from guidance counselor/academic advisor or science/math teachers
- A personal statement to support admission to the University
- High school transcripts
- Some students may be invited to interview with the Admissions Committee

Visiting Students

Students attending another collegiate institution or secondary school seeking enrollment for one semester must submit an application for admission. Supplemental materials may be requested such as transcripts to assist with course placement.

The following items are required to complete a visiting student application:

- Completed application for admission submitted online at uhsp.edu/registrar/visiting/
- All transcripts from any post-secondary institution attended or most current high school transcript
- Students should also be in good standing (no current academic suspensions, disciplinary suspension, etc.) with all institutions attended prior to University of Health Sciences and Pharmacy in St. Louis

Transfer Credits

Advanced Placement (AP) Credit

UHSP participates in the Advanced Placement examination program of the College Entrance Examination Board (CEEB). Students should submit their AP Scores no later than their first semester at the University for transfer credit consideration. AP credit will only be awarded with the official AP score report from the College Board. A score of 3 on examinations will earn course credit.

Official test results must be sent by the University Board to University of Health Sciences and Pharmacy in St. Louis for credit consideration. Credit awarded by other institutions based on Advanced Placement (AP) tests and reported on a transcript will not transfer.

International Baccalaureate (IB) Credit

The University recognizes the International Baccalaureate Program and will grant credit for performance in the program. While no credit is given for the standard-level examinations, credit for students who pass the higher-level examination with a minimum score of six will be awarded.

Official test results must be sent by the IB Organization to University of Health Sciences and Pharmacy in St. Louis for credit consideration. Credit awarded by other institutions based on International Baccalaureate (IB) tests and reported on a transcript will not transfer.

College Credit

Courses taken outside the University will be transferred in as credit, if approved by the University. The University reserves the right to refuse the transfer of any previously earned college credits. Each applicant's previously completed college-level coursework from an accredited institution is evaluated on an individual basis by a qualified faculty member and the appropriate chair of the faculty member's department. A record of courses approved for transfer credit from other institutions are maintained by the Office of the Registrar. The courses are reviewed for transfer eligibility every five years by a qualified faculty member. Students may need to provide additional information regarding the course for transfer credit consideration.

Factors that influence the transfer of credits include, but are not limited to, the following:

- It is recommended that transfer or prerequisite coursework not be completed more than seven years prior.
- Credit will not be awarded for coursework in which less than a C- was earned.*
- Credit must be equivalent to semester hours. Quarter and/or trimester hours are converted to semester hours to ensure the student has received an equal amount of instructional time.

*Due to the COVID-19 pandemic that occurred in the spring of 2020, college credit with grades of Pass or Credit from the spring 2020 semester and the summer 2020 semester will be considered.

Dual Credit

Credit earned during high school in approved dual credit courses from an accredited college, university or community college is accepted at the University. Students who receive a minimum of B- are eligible for credit. In addition to credit toward required courses, credit is available for elective courses.

GRADUATE (GR) ADMISSION

Applicants must submit an application through uhsp.edu/apply. In the application process applicants must submit:

- Transcripts — All official transcripts from all post-secondary institutions are required at the time of application
- Verification of bachelor's degree from an accredited institution in the U.S. or an equivalent degree from an international institution
- Reference letters — Submitted directly from the reference. Individual programs may specify specific types of recommenders (e.g., academic or professional in nature)
- Statement of Purpose — A concise statement which outlines rationale for applying to the specific graduate program, previous experience, and summary of professional goals.
- Resume or Curriculum Vitae

International applicants will need to meet all graduate application requirements as well as those outlined for International Students ([P. 15](#)) WES evaluations of transcripts are required.

Special transcript verification for degrees received in China (excluding Hong Kong & Macau) via the China Academic Degrees and Graduate Education Development Center will be considered.

PROFESSIONAL (P1) ADMISSION

To be considered for acceptance into St. Louis College of Pharmacy, applicants must apply to the University using the central pharmacy application system PharmCAS (pharmcas.org). Refer to the PharmCAS website or the University website (uhsp.edu/admissions) for specific requirements. Applications sent directly to the University will be returned to the applicant for submission through the PharmCAS website. The deadline for applying to PharmCAS is March 1, before the fall semester of entry, or until the incoming professional class is full, whichever comes first, but no later than July 1. Beginning with fall 2023 professional program entry, all students, including all internal, UHSP students, pursuing entry to the professional program, will be required to submit a PharmCAS application.

The University also reserves the right to require proof of English proficiency. The applicant will be notified if this is necessary. The applicant will also be required to attend an interview and submit a writing sample as part of the application process.

Prerequisites for Entry into the First Professional (P1) Year

COURSE	CREDIT HOURS	UHSP EQUIVALENT
General Chemistry (with Lab)	8	CHEM1105, CHEM1105L, CHEM1106, CHEM1106L
Organic Chemistry (with Lab)	8	CHEM1231, CHEM1231L, CHEM1232, CHEM1232L
Biochemistry	3	CHEM3321
Biology (with Lab)	8	BIOL1111, BIOL1111L, BIOL1112, BIOL1112L
Human Anatomy and Physiology (with Lab)	8	BIOL2220, BIOL2220L, BIOL2231, BIOL2231L
Microbiology (with Lab)	4	BIOL3240, BIOL3240L
Calculus	3	MATH1110
Statistics	3	MATH1120
Physics (with Lab)	4	PHYS3200, PHYS3200L OR PHYS3211, PHYS3211L
English Composition and College Writing	6	WRIT1101, WRIT1102
Public Speaking and Communication	3	COMM1100 OR COMM3200

Psychology or Sociology	3	PSYC2210 OR SOCI2210
Microeconomics, Macroeconomics or a Survey of Economics Course	3	ECON3200
General Liberal Arts and Humanities	3	

All prerequisite coursework must be approved by the University. Courses with grades below C- will not be accepted.* It is recommended that prerequisite coursework not be completed more than seven years prior to the Pharm.D. program application.

*Due to the COVID-19 pandemic that occurred in the spring of 2020, prerequisites with grades of Pass or Credit from the spring 2020 semester and the summer 2020 semester will be considered.

APPLICATION DEADLINES

- December 1: Early Decision and Early Application deadline for fall term FTFT students.
- January 11: Regular Decision deadline for spring term FTFT and UGTR students.
- March 1: Regular Decision deadline for fall term. All levels, FTFT, UGTR, GR and P1.

TUITION AND FEES

The Office of Financial Aid is committed to helping students navigate the financial aid application process and securing the aid necessary to pursue a degree. The Office of Financial Aid can be reached at 314.446.8328.

TUITION

Total tuition, per semester, varies according to the program level.

Tuition and fees for the 2022-2023 academic year are listed below. Contact the Business Office for questions regarding payments and refunds.

Tuition and fees, including room and board rates, are subject to change each year. For the current academic year rates, please visit uhsp.edu/financialaid/cost-of-attendance.

LEVEL	PER ACADEMIC YEAR (Fall and Spring)	SUMMER 2022 (Required Courses)	FALL 2022 SEMESTER	SPRING 2023 SEMESTER	PER CREDIT HOUR*
Undergraduate Programs	\$30,680		\$15,340	\$15,340	\$ 1,025
Graduate Programs			Tuition assessed per credit hour	Tuition assessed per credit hour	\$ 950
Professional Program: P1 Year	\$41,676		\$20,838	\$20,383	\$ 1,305
Professional Program: P2 Year	\$41,676	\$3,915*	\$20,838	\$20,383	\$ 1,305
Professional Program: P3 Year	\$41,676	\$3,915*	\$20,838	\$20,838	\$ 1,305
Professional Program: P4 Year	\$46,896	Tuition assessed per rotation	Tuition assessed per rotation	Tuition assessed per rotation	\$ 1,305

- All introductory pharmacy practice experience courses (IPPE) taken during the summer and winter terms will be billed on a per credit hour basis.
- All advanced pharmacy practice experience courses (APPE) will be billed on a per credit hour basis.

*The individual credit hour rate applies to undergraduate and professional courses in excess of 18 credit hours, less than 12 credit hours, and summer session courses.

STUDENT FEES

FEE TYPE	PER ACADEMIC YEAR (Fall and Spring)	FALL 2021 SEMESTER	SPRING 2022 SEMESTER
One Fee (all students)	\$600	\$300	\$300
NAPLEX Prep Fee (P4 only)	\$230	\$115	\$115
Student Health Insurance (Estimate)	\$4,656	\$4,656	\$0

HOUSING

North Residence Hall (First-Year and Sophomore Students)

ROOM TYPE	PER ACADEMIC YEAR (Fall and Spring)	FALL 2020 SEMESTER	SPRING 2021 SEMESTER
Shared room	\$7,000	\$3,500	\$3,500
Single Room	\$9,500	\$4,750	\$4,750
First-year and sophomore minimum meal plan**	\$5,500	\$2,750	\$2,750

**Larger meal plans are available.

South Residence Hall (Junior and Professional Students)

ROOM TYPE	PER ACADEMIC YEAR (Fall and Spring)	FALL 2020 SEMESTER	SPRING 2021 SEMESTER
Suite with Kitchenette	\$8,850	\$4,425	\$4,425
Standard Suite	\$8,350	\$4,175	\$4,175
Single with Kitchenette	\$10,000	\$5,000	\$5,000
Standard Single Room	\$9,500	\$4,750	\$4,750
Double with Kitchenette	\$7,500	\$3,750	\$3,750
Standard Double Room	\$7,000	\$3,500	\$3,500

Resident minimum meal plan**	\$4,500	\$2,250	\$2,250
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**Larger meal plans are available.

PARKING

Students may choose parking in the Children's Place Garage, the Duncan Central Garage, one block east of campus or the S. Kingshighway Lot, one mile south of campus with a dedicated shuttle to and from campus, as space allows. Parking rates for the academic school year are as follows:

Annual Pricing (August-May):

- S. Kingshighway Lot - \$350/per the 2022-2023 academic school year
- Duncan Central Garage - \$1,350/per the 2022-2023 academic school year
- Children's Place Garage - \$1,500/per the 2022-2023 academic school year

During the summer semester, parking is available at a weekly rate of \$45 in the Children's Place Garage.

Students also have the option of evening and weekend parking for \$175 per semester.

For more information, visit uhsp.edu/parking.

INSURANCE

Health Insurance

As an institution dedicated to the study of health care, University of Health Sciences and Pharmacy in St. Louis places a great emphasis on personal health and well-being. The University requires that all students be covered by a comprehensive medical and prescription drug insurance plan. Students will be required to show proof of coverage by a health insurance policy or enroll under the University-sponsored plan through Wellfleet, administered by Gallagher Student Health.

It is imperative that students watch for emails during the summer for specific health insurance open enrollment and waiver information. Detailed instructions are emailed during the summer and with the summer tuition statement. Every student has to take action every year to either waive or enroll under the University-sponsored plan. Students who do not take appropriate action by showing proof of other coverage before the Aug. 31, 2022, deadline will be submitted for enforced enrollment and billed for the annual student health insurance plan through Wellfleet. This policy cannot be canceled.

The University's plan is in effect Aug. 1, 2022, through July 31, 2023.

- A complete summary of the benefits can be found on our website
- The approximate cost estimate for the 2022-2023 school year is \$4,573 .
- Financial aid packages can be adjusted to cover this cost.
- Students must first be enrolled in fall courses, and then take action to enroll or submit a waiver through Aug. 31, 2022

For more information, contact the Office of Campus Life at 314.446.8021 or lisa.dollar@uhsp.edu.

Professional Liability Insurance

University of Health Sciences and Pharmacy in St. Louis coordinates domestic and international professional liability insurance coverage for pharmacy students in their P1–P4 years. The domestic professional liability insurance covers pharmacy practice activities in the United States and certain U.S. territories. Maintaining this coverage is required. This coverage includes the student's private practice activities associated with outside employment or volunteer work and official University courses or activities (e.g. experiential training, sponsored community health events).

For students participating in official University courses or practice activities in foreign countries, the University coordinates professional liability insurance coverage for any student acting within the scope of their authorized duties. All students and faculty members involved with University-sponsored international travel must obtain authorization by following the requirements of the University's International Travel Policy (policy may be found at policies.uhsp.edu). Students who engage in unauthorized and non-University sponsored activities are not covered under the University's international professional liability insurance program. The University cautions students against unauthorized overseas pharmacy or health care related activities. This can result in personal liability at home or in a foreign country for violations of professional licensure and registration requirements, ethical standards, and harm caused to third persons. Additionally, unauthorized activity could potentially adversely impact a student's application for state licensure as a pharmacist. Any questions regarding international travel should be directed to the chair of the International Travel Oversight Committee.

PAYMENT INFORMATION

Enrollment Deposit

Accepted undergraduate students who are admitted must submit a \$300 deposit. External applicants for the Pharm.D. program must submit a \$200 enrollment deposit within two weeks of acceptance. All deposits for fall admission are due by May 1 and are refundable until that date.

All deposits for spring admission are due by January 11 and are refundable within two weeks of the deposit. All deposits for fall admission made after May 1 are due within two weeks of acceptance and are nonrefundable.

Residence Hall Deposit

Newly accepted students will complete an online housing application following receipt of their academic deposit. The refundable security or damage deposit of \$250 must accompany the completed housing application. This deposit will be returned when the room is vacated, provided that no damage has been done to the room and full contract term has been met.

Payments

All housing payments are due at the beginning of each semester. The University reserves the right to cancel the registration of students who have not made adequate payment by the due date. Students with outstanding balances will not be allowed to register for subsequent semesters. Payment of all University fees and obligations is a requirement for graduation. If fees or obligations to the University remain unpaid after the student is graduated or leaves school, the University reserves the right to withhold applications for state board examinations and certified copies of student transcripts, as well as the student's diploma.

Accounts Receivable Policy

The Business Office is responsible for the billing and collection of all tuition and fees owed for each semester. The office is located on the main floor of the South Residence Hall, and the office hours are from 9 a.m.-3 p.m., Tuesday and Wednesday. Each student attending University of Health Sciences and Pharmacy in St. Louis assumes responsibility to pay all University-related expenses not covered by financial aid.

Student Billing

Fall billing is made available in early July, with the full payment due two weeks before the semester begins. Spring billing is made available in early December, with the full payment due two weeks before the semester begins. Summer billing is made available in early May, with the full payment due the first day of summer classes. Student bills may be paid by financial aid, personal check, cashier's check, money order, wire transfer or cash. The Business Office accepts credit and debit card payments online only and by automated clearing house online only.

Overdue Bills

A 1% late fee may be charged to accounts five days delinquent. If a student's account is delinquent, the University may take any steps necessary to collect the balance due. This may include preventing a student from registering for or attending classes or withholding transcripts or diplomas.

Students who withdraw from the University must make satisfactory payment arrangements to meet all outstanding financial obligations to the University. Examples of such obligations include tuition and fees, room and board, library fines, bookstore accounts, health-related fees and so on. The University may take any steps necessary to collect the balance due, including turning the account over to a collection agency or taking legal action to collect the balance due. Any costs incurred in collecting a student account — up to 50% of the balance due — will be charged to the student. The student's transcript will not be released until payment of all obligations has been made in full. Each graduating student must pay all financial obligations to the University prior to graduation. A University of Health Sciences and Pharmacy in St. Louis diploma will not be awarded until this obligation is met.

University of Health Sciences and Pharmacy in St. Louis Health Professions Loans become due as stated in the promissory note signed by the student. Transcripts will not be released to students who are in default on repayment of these loans.

Late Fees

Late fees are assessed monthly. Unpaid balances will incur late fees in the amount of 1% of the unpaid balance each month.

All University fees including tuition, fees and housing costs are assessed per semester and are payable two weeks before the beginning of each semester.

Recipients of chapter 31 or chapter 33 GI Bill benefits will incur no penalties, including the assessment of late fees, the denial of access to classes, libraries or other institutional facilities, nor will they be required to borrow additional funds to cover the individual's inability to meet their financial obligations to University of Health Sciences and Pharmacy in St. Louis due to the delayed disbursement of a payment by the U.S. Department of Veterans Affairs.

Note: Tuition, fees, deposits and housing fees are subject to change without notice.

Tuition and Miscellaneous Fee Refunds

The application fee and the student activities fee are not refundable. The following graduated scales are used to determine refunds for students withdrawing from the University. One hundred percent of tuition minus the tuition deposit will be refunded to first-semester, first-year students and first-semester, transfer students only if written notice of cancellation is received by the appropriate Office of the Dean after May 1 but before the first day of classes.

Tuition refunds for the semester are based on the documented last date of attendance determined by the Office of the Registrar. Title IV financial aid refunds will also be calculated based upon the same last date of attendance. Weeks coincide with the first day of class. For example, weeks that begin on Wednesday would end on Tuesday.

Tuition Refunds

Students who withdraw from all classes will receive a refund based on the following withdrawal schedule: Withdrawal Date per Refund – Tuition Only

- During first or second weeks of classes – 100%
- During third or fourth weeks of classes – 80%
- During fifth or sixth weeks of classes – 60%
- After sixth week of classes – No refund
- After 20% (3 days) of summer or winter IPPE rotation has been completed – No refund
- After 20% (5 days) of APPE rotation has been completed – No refund

Federal student aid recipients receive financial aid refunds as determined by the Office of Financial Aid based on Title IV regulations.

Refund for Dropped Courses

All full-time students are assessed tuition at a full-time tuition rate and do not receive refunds for dropped courses.

If individual courses are dropped, only those students who were assessed tuition on a per credit hour basis may receive a refund for the dropped courses. The amount of a refund for a dropped course is determined by the University withdrawal refund schedule.

Refunds are available when a credit balance exists on an account. Any fees owed to the University will be subtracted from the refund. Students are notified by email when their refund is available.

The Title IV aid earned by students withdrawing from the University may not cover all the unpaid costs charged by the University. In such cases, withdrawn students must pay the balances not covered by earned Title IV aid to the Business Office before their accounts are considered in good standing.

Refund Example

Student A withdraws 13 days into a 110-day semester during the third week of classes. The student completed 12% of the semester and is responsible to pay 20% of the tuition for the semester (\$3,011 of \$15,054 in tuition and fees). The student earned just 12 percent of his financial aid (\$120 of a \$1,000 Pell grant disbursement). The remaining, unearned portion of his financial aid (\$880) must be returned to the United States Department of Education. Additionally, Student A owes the University \$2,891 after his earned Title IV aid is deducted from his charged tuition and fees (\$3,011 minus \$120).

Return of Title IV Federal Funds

Upon receiving notice of a student's withdrawal dates from the Office of the Registrar, the Office of Financial Aid will calculate the percentage of a period of enrollment completed and the portion of federal funds received that must be returned to the Department of Education. The Office of Financial Aid will share this calculation with the Business Office.

The Business Office will use the form's calculations to determine the number of days completed within the payment period, and the financial aid (including Title IV assistance) that must be removed from the student's account and returned to Title IV. The Business Office will calculate returned, unearned Title IV funds in the following order: Unsubsidized Federal Direct Loan, Subsidized Federal Direct Loan, Federal Direct PLUS Loan, Pell Grant, FSEOG (the University does not award TEACH Grants). Unearned Title IV assistance will be returned within 45 days of the Office of the Registrar's determination of the student's final date of attendance.

The Business Office will send a final bill to withdrawn students documenting tuition credits and unearned Title IV debits (returns).

For students leaving the University with an outstanding balance owed to the University, all unearned Title IV assistance for the payment period, or an equivalent amount in cases when students received a refund resulting from Title IV assistance, will be returned by the University to the Department of Education. The University will send bills to withdrawn students with outstanding balances monthly for six months.

Students are responsible for repaying unearned Direct Loan disbursements that were refunded to the student by the University. Students may learn their Direct Loan servicer by completing loan exit counseling at studentaid.gov as detailed in an exit counseling notice sent within 30 days of withdrawal.

If no payment is received within six months from withdrawn students owing \$1,000 or more, the Business Office will send the student's information to a collection agency. If no payment is received within six months from withdrawn students owing less than \$1,000, the Business Office forgives the debt, but places a hold against the student's transcript. Transcripts will not be released until the student pays the outstanding balance.

Housing Refunds

North and South Residence Hall contracts are for the entire academic year (two semesters). Cancellation requests are only granted in rare cases such as termination of enrollment or marriage. Fees are assessed on a semester basis.

- Request for cancellation is to be submitted to the coordinator of residential life.
- If requests are granted, the University will give the student a prorated credit or refund applied against the contract charges paid by the student for the contract term, subject to an early cancellation fee equal to \$750 plus the deposit. A student who has completed more than 75% of the current academic semester will not receive a credit or refund on their account nor be assessed an early cancellation fee for the semester in which the contract cancellation form is received. However, the University will assess the early cancellation fee (\$750 plus the deposit) for any student who has contracted for space and services for additional, unused semesters under the term of their contract. The student agrees that the cost of repairs or replacement for damages to University property or any other amounts due and owing under the contract or University policies may be deducted from any credit or refund or charged to the student. The University will administer the cancellation fee requirement consistent with any applicable federal or state law.
- If payments are being made under the deferred payment plan and the refundable amount, based on the above schedule, is less than the unpaid balance, the difference is still due to the University. The amount of the refund will be applied to any outstanding obligation due to the University before a refund check is authorized.
- Housing deposits are refundable before enrolling in classes at the University. If a student withdraws after enrolling the deposit may be refunded, minus any costs for damages. Housing deposits are not refunded if a student breaks a housing contract and remains enrolled in the University.

Returned Checks

A \$25 fee will be charged on any returned check. After two returned checks, a student may be required to pay by cashier's check, money order, wire transfer or cash.

Overpayments, Fraud and Abuse

The Office of Financial Aid will report to the Office of Inspector General all instances of suspected fraud where a financial aid applicant, employee or other individual has misreported information or altered documentation for the purpose of increasing aid eligibility or fraudulently obtaining federal aid funds.

Students are responsible for repaying unearned Direct Loan disbursements that were refunded to the student by the University. Student may learn their Direct Loan Servicer by completing loan exit counseling at studentaid.gov.

Professional Judgment

The Office of Financial Aid may make exceptions to the above guidelines for unusual or extenuating circumstances pertaining to the student or parent. Professional judgment applications are available in the Office of Financial Aid. Professional judgment cannot be used to waive general student eligibility requirements or to circumvent the intent of the law or regulations.

FINANCIAL AID AND ASSISTANCE

FINANCIAL AID CALCULATIONS

Federal and state aid is primarily based upon financial need. Students must apply through the Free Application for Federal Aid (FAFSA) to be considered. This requires disclosures of student and family income, assets, savings, family size and any unusual circumstances affecting family finances.

The Expected Family Contribution (EFC) is calculated, per federal regulations, by the U.S. Department of Education and returned to the student (and the University) in the form of a Student Aid Report (SAR). The cost of attendance (i.e., tuition, room and board, books, supplies, personal items, travel expenses, etc.) minus the EFC, results in the Student's Unmet Need.

$(\text{Cost of Attendance}) - (\text{Expected Family Contribution}) = \text{Student's Unmet Need}$

Students are encouraged to apply for aid as soon as possible after October 1 for the following academic year.

FINANCIAL ASSISTANCE PACKAGES

Only students pursuing their first undergraduate degree are eligible for federal and state grants. Graduate-level students are not eligible for federal or state grants or scholarships, but they are eligible to benefit from additional resources available through the Federal Direct Loan program.

For federal financial aid eligibility, undergraduate students are considered full-time when enrolled in at least 12 credit hours during fall, spring or summer semesters. Professional students are considered fulltime when enrolled in at least ten credit hours during the fall and spring semesters, and when enrolled in at least six credit hours during the summer semester. These enrollment definitions are only used to determine eligibility for federal financial aid.

Federal Pell Grant

(funded by the federal government)

Eligibility is determined by the Expected Family Contribution (EFC) figure on the Student Aid Report (SAR) and the number of credit hours for which the student registers each semester. The student must be pursuing their first undergraduate degree to receive this grant.

Federal Supplemental Educational Opportunity Grant (SEOG)

(federally funded)

Eligibility is determined based upon exceptional need criteria. Preference is given to Pell Grant recipients. The student must be pursuing their first undergraduate degree and registered as at least a half-time student to receive this grant.

Federal Direct Loan

(federally funded)

Subsidized Federal Direct Loan eligibility is determined on the basis of need. The government subsidizes these loans by paying the interest while the student is in school.

Unsubsidized Federal Direct Loan eligibility is determined by the cost of education and available resources. Interest may be accrued or paid, but it is the student's responsibility. The student must be registered at least half-time to be eligible.

Students are eligible to borrow under the Direct Loan Program as follows:

Undergraduate Levels

First-Year Student

Dependent Eligibility \$3,500 Subsidized + \$2,000 Unsubsidized

Independent Eligibility \$3,500 Subsidized + \$6,000 Unsubsidized

Sophomore

Dependent Eligibility \$4,500 Subsidized + \$2,000 Unsubsidized

Independent Eligibility \$4,500 Subsidized + \$6,000 Unsubsidized

Junior

Dependent Eligibility \$5,500 Subsidized + \$2,000 Unsubsidized

Independent Eligibility \$5,500 Subsidized + \$7,000 Unsubsidized

Senior

Dependent Eligibility \$5,500 Subsidized + \$2,000 Unsubsidized

Independent Eligibility \$5,500 Subsidized + \$7,000 Unsubsidized

Professional Levels

P1-P3 Graduate

Eligibility \$20,500 Unsubsidized + \$12,500*

*Additional Unsubsidized under HEAL limits

P4 Graduate

Eligibility \$20,500 Unsubsidized + \$16,667*

*Additional Unsubsidized under HEAL limits

Graduate Levels

G1 Graduate

Eligibility \$20,500 Unsubsidized

G2 Graduate

Eligibility \$20,500 Unsubsidized

*Additional unsubsidized Direct Loan eligibility requires full-time enrollment as determined by the Office of the Registrar.

****Additional unsubsidized Direct Loan eligibility of \$12,500 is based on a 9-month enrollment period. Students enrolled in additional months will increase their additional unsubsidized eligibility by \$1,389 per month.**

Undergraduate dependent students can borrow a maximum of \$31,000 while independent students can borrow a maximum of \$57,500, of which up to \$23,000 may be subsidized loans.

Graduate students who are pursuing a Pharm.D. can borrow a maximum of \$224,000 and graduate students who are not pursuing a Pharm.D. can borrow a maximum of \$138,500 (both totals include combined graduate and undergraduate Direct Loans of which a maximum of \$65,500 can be subsidized).

A student is classified as dependent or independent by the Department of Education based on information provided on the FAFSA.

Students reaching graduate levels are not eligible for federal and state grant assistance.

Federal Direct Parent and Graduate PLUS Loan (federally funded)

Parent PLUS loans are originated by parents or stepparents of eligible dependent undergraduate children. Graduate PLUS loans are originated by graduate level students. Eligibility is determined on the basis of the cost of education, available resources and borrower's credit history. Students must be registered at least half-time. Only parents or stepparents of dependent, undergraduate-level students may apply for parent PLUS Loans.

Federal Work-Study (federally funded)

Eligibility is based on need. Students awarded under this program earn the funds as they work part time. The funds earned, minus taxes, are paid directly to the student.

Access Missouri Grant (funded by the state of Missouri)

The student must be pursuing their first undergraduate degree, registered as a full-time student, demonstrate need (as determined by the state of Missouri) and reside permanently in Missouri. A cumulative GPA of 2.5 is required to renew this award. Students at University of Health Sciences and Pharmacy in St. Louis are eligible to receive this grant while enrolled as undergraduate students.

Missouri Higher Education Academic Scholarship (Bright Flight) (funded by the state of Missouri)

This financial aid is awarded to students with the highest SAT or ACT scores as determined by the state of Missouri. The student must be a resident of Missouri. A cumulative GPA of 2.5 is required to renew this award. The student must be pursuing their first undergraduate degree. Students at University of Health Sciences and Pharmacy in St. Louis are eligible to receive this grant while enrolled as undergraduate students.

Professional Pharmacy Scholarships

(funded by University of Health Sciences and Pharmacy in St. Louis)

Full-time P1-P4 students who meet professional eligibility requirements may receive scholarships. Professional pharmacy students should complete the institutional application for endowed scholarships annually.

Health Professions Loan

(federally funded)

Eligibility is determined based on exceptional need criteria utilizing the parent and student information. The student must be registered full time in a degree program leading to a Pharm.D. Preference will be given to undergraduate students who have an EFC of less than \$ 12,500. Federal guidelines require recipients to provide copies of student and parent tax transcripts — regardless of age and dependency status. A signed promissory note, self-certification form and acknowledgement of truth in lending statements must be on file before funds will be disbursed. Students are also required to complete an online entrance interview each year they borrow.

Private Loan

(funded by private lenders)

Eligibility criteria and interest rates vary from lender to lender. Private loans must be preapproved by the lender before the University certifies the loan.

Merit Scholarships

(funded by University of Health Sciences and Pharmacy in St. Louis)

New students may be awarded scholarships based on a holistic evaluation of students' academic achievement, financial need, community service and leadership experience. Full-time enrollment as defined by UHSP is required to receive institutional scholarships.

Athletic Scholarships

(funded by University of Health Sciences and Pharmacy in St. Louis)

Student athletes may be eligible to receive institutional scholarships for participating in University athletics. Scholarship recipients and amounts will be determined by the Department of Intercollegiate Athletics. Students will complete a Student Athlete Financial Aid Agreement before receiving funds.

Institutional Aid

(funded by University of Health Sciences and Pharmacy in St. Louis)

Eligibility requirements vary among awards but are generally based on need or academic standing and enrollment at a full-time status as defined by UHSP.

Annual and Endowed Scholarships

(funded by various sources)

Through the generosity of alumni, corporations and friends of the University, annual and endowed scholarships are awarded each year. These scholarships are separate from the University-funded, merit-based institutional scholarships given. To be considered for the annual and endowed scholarships, students must complete an online application in the fall. Students are notified at the start of the application process.

Each year, the University hosts a Scholarship Awards event at which annual and endowed scholarships are celebrated. For the 2021-22 academic year, 192 awards totaling more than \$476,500 in scholarship assistance were presented to 161 students. Selection criteria for these largely need-based scholarships may also be based on academic achievement and other qualities such as leadership, professional attitude, community service or employment. In each case, the donor of the scholarship helps set the criteria for the scholarship.

For more information about scholarships and awards, please contact the Office of Advancement at advancement2@uhsp.edu.

External Aid

(funding by external sources – i.e., employers, scholarship foundations, local businesses, etc.)

Eligibility requirements will vary and are established by the entity making the award. Students are required to report all sources of aid to the Office of Financial Aid regardless of aid type (grant or loan). Aid must be reported even if the benefits are paid directly to the student.

FINANCIAL SCHOLARSHIPS

Each year, deserving students are selected for annual scholarships by University of Health Sciences and Pharmacy in St. Louis. To be eligible for these scholarships, the student must meet specific criteria established for individual awards. Students must complete an online application prior to the conclusion of the fall semester in order to be eligible. Awardees are expected to attend the scholarship awards event to receive their award. The following will disqualify a student from consideration: a severe violation of academic dishonesty or nonacademic probation.

DISBURSEMENT OF AID

Pell, FSEOG, Health Profession Loans, Federal Direct Loans, PLUS Loans and institutional aid will automatically be credited to the student's account.

The following is a list of awards that are not automatically credited to the student's account: Federal Work-Study, private loans, Missouri state grants and external aid where funds must be disbursed to University of Health Sciences and Pharmacy in St. Louis. These awards are applied to students' accounts upon receipt of funding. Disbursements requiring student or parent signatures will be applied upon receipt of signatures. Federal Work-Study is paid directly to the student, minus taxes, as they earn the wages.

Financial aid is first applied to tuition and fee charges, then to on-campus room and board expenses. If a student receives additional external aid (scholarships or loans) that exceeds these charges, the student

should complete and submit a refund request directly to the Business Office. Refunds will be issued to the student based upon the policy of the Business Office. Financial aid cannot exceed cost of attendance as defined earlier in this catalog.

The Business Office will not be notified of awards received until the student accepts the awards online at uhsp.edu/netpartner.

SPECIAL CIRCUMSTANCES

If a student has special circumstances or the financial situation has changed since completing the Free Application for Federal Student Aid (FAFSA). Professional judgement can also be defined in specific circumstances. The student should contact the Office of Financial Aid for additional information and instruction.

AWARD CONDITIONS

University of Health Sciences and Pharmacy in St. Louis may adjust financial aid to reflect changes to the student's personal or financial circumstances, registration changes or new resources available. If a change in the aid package is required, the Office of Financial Aid will send a revised award notice to the student.

The student's award offer is based upon the number of credit hours indicated on the student's registration report recorded by the Office of the Registrar. It is the student's responsibility to notify the Office of Financial Aid immediately of any changes in registration, marital status, housing arrangements or any external awards.

Federal tax transcripts must be submitted upon request in order to comply with federal regulations. If the actual IRS data is different from that reported on the aid application, the Office of Financial Aid will revise the award offer accordingly.

Awards from government and private sources are dependent upon receipt of funds from the appropriate agencies. The student is responsible for any reapplication process needed to continue receipt of these funds. The University will not replace funds lost due to nonrenewal of applications. Awards in the financial aid package may vary from year to year depending on financial circumstances and availability of funds.

Eligibility for all federal aid requires students to meet the following criteria:

- The student is a U.S. citizen or eligible noncitizen.
- The student does not owe a refund on any federal grant or loan.
- The student is not in default on any federal loan or has made satisfactory arrangements to repay any defaulted student loan.
- The student has not borrowed in excess of the federal loan limits, under Title IV programs, at any institution.
- Must have resolved any drug conviction issues.
- Does not have a property subject to a judgment lien for a debt owed to the United States.
- Is not incarcerated in a federal or state penal institution.

- Students must maintain satisfactory academic progress (SAP) as outlined in the satisfactory academic progress for financial aid section of this catalog.
- Must be enrolled as a regular student in an eligible program.
- Cannot also be enrolled in elementary or secondary school.
- Must have a high school diploma or equivalent, pass an approved ability-to-benefit test or have been home-schooled.
- Must meet enrollment status requirements.

RENEWING AWARDS

Undergraduate students are eligible to renew institutional awards through their four undergraduate years. Renewal criteria are:

- First year (renewing awards for sophomore year): Students must achieve a GPA of 3.0 or higher in their initial fall semester and remain in good academic standing (as defined by the Office of the Registrar) for their initial spring semester. Full-time enrollment status must be maintained.
- Sophomore year (renewing awards for junior year): Students who renewed their awards for their sophomore year and achieve a cumulative GPA of 3.0 or higher at the end of their sophomore fall semester receive first priority. Full-time enrollment status must be maintained.
- Junior year (renewing awards for senior year): Students who renewed their awards for their junior year and achieve a cumulative GPA of 3.0 or higher at the end of their junior fall semester receive first priority. Full-time enrollment status must be maintained.

Students who do not meet the GPA renewal requirement through the fall semester may appeal the loss of their scholarship to the Office of Financial Aid if their cumulative GPA is at least 3.0 following the subsequent spring semester.

Should a student be found in severe violation of the Academic Honor Code or severe instances of nonacademic misconduct such as suspensions or dismissal, they may be eligible for forfeiture of institutional scholarship or institutional grants awarded by the Office of Financial Aid. Scholarship forfeiture will occur when the Office of Financial Aid receives notification of such a violation from any Dean's Office.

FINANCIAL AID ELIGIBILITY

Students' undergraduate and graduate/professional financial aid eligibility is determined by examining enrollment classifications assigned by the Office of the Registrar and the number of credit hours students have completed.

Students are eligible for undergraduate financial aid awards and amounts when they have completed fewer than 72 credit hours of college-level and college-equivalent courses.

Students are eligible for graduate/professional financial aid awards and amounts when they have completed at least 72 credit hours of college-level and college-equivalent courses and are defined as Professional Year (P1–P4) students by the Office of the Registrar.

Financial aid uses the following credit status to determine enrollment status for loan eligibility:

Undergraduate			
Fall & Spring Full-Time	Summer Full-Time	Fall & Spring Half-Time	Summer Half-Time
12 credits	12 credits	6 credits	6 credits

Professional			
Fall & Spring Full-Time: P1-P3	Summer Full-Time: P1-P3	Fall & Spring Half-Time: P1-P3	Summer Half-Time: P1-P3
10 credits	10 credits	5 credits	3 credits

Professional			
Fall & Spring Full-Time: P4	Summer Full-Time: P4	Fall & Spring Half-Time: P4	Summer Half-Time: P4
10 credits	10 credits	5 credits	3 credits

Graduate			
Fall & Spring Full-Time:	Summer Full-Time:	Fall & Spring Half-Time:	Summer Half Time:
6 credits	3 credits	6 credits	3 credits

SATISFACTORY ACADEMIC PROGRESS FOR FINANCIAL AID

In accordance with Federal regulations (34CFR 668.32(f)), the Office of Financial Aid conducts evaluations of satisfactory academic progress to determine students' eligibility for continued receipt of Title IV financial aid (Pell grants, FSEOG, Direct Loans). The financial aid evaluation of satisfactory academic progression is based on the University's academic probation and dismissal policies. The academic probation and dismissal policies are applicable to all students pursuing degrees at the University, regardless of their eligibility for Title IV financial aid. Academic performance is monitored by a team of members from the Office of the Deans, the Office of the Registrar and the Academic Status Committee. Students are required to maintain good academic standing while meeting appropriate academic benchmarks designated for their specific levels of study.

Students will be making satisfactory academic progress as long as they are permitted to continue pursuit of their declared degree program without being placed on academic probation or becoming eligible for dismissal from the University. Satisfactory progress is measured following each period of enrollment, including summer terms.

Financial Aid Warning

When a student fails to meet the academic good standing requirements, the appropriate Office of the Dean places the student on academic probation and recommends specific terms and timeframes for improvement. A student placed on their first academic probation is also be placed on financial aid warning.

Students on financial aid warning are eligible to receive Title IV funds for the period of enrollment to which their academic probation applies. Failure to satisfy the terms to return to good academic standing

as stated by the appropriate Office of the Dean results in students being placed on financial aid suspension until they return to good academic standing.

Financial Aid Suspension

Students eligible for academic dismissal from the University as determined by the academic probation and dismissal policies and the appropriate Office of the Dean are placed on financial aid suspension. The Offices of the Deans and Financial Aid notify the student of a suspension in writing.

Suspension results when a student fails to correct deficiencies during a probationary period. Students placed on financial aid suspension are not eligible to receive Title IV funds. Financial aid suspension will be lifted for students allowed to continue in their declared degree program once they resume standards of good academic standing according to the academic probation and dismissal policies.

Notification of Financial Aid Status

Students placed on financial aid warning or suspension receive a letter from the appropriate Office of the Dean and Financial Aid detailing the reasons for and consequences of the financial aid status. The letter also cites the stipulations listed in their Academic Probation letter as conditions for resuming satisfactory progress.

Financial Aid Appeals

Any student who can demonstrate that failure to maintain satisfactory academic progress is due to extenuating circumstances may file an appeal in writing to the office of the appropriate dean or the office of financial aid. Appropriate documentation must be submitted to support the appeal. Extenuating circumstances generally involve personal matters that significantly impact the student's academic performance.

The office of financial aid will consult with the appropriate Office of the Dean, the and the Office of the Registrar before deciding if the appeal will be approved. Failure to provide supporting documentation may result in a delay or denial of an appeal. All financial aid will be placed on hold while appeals are pending. Inquiries into the reinstatement of aid may be directed to the office of financial aid.

Financial aid suspensions will be considered separately from academic decisions.

Financial Aid Probation

Students removed from suspension by appeal agree will be placed on financial aid probation for the semesters specified. The student is notified in writing. Students on probation may receive Title IV financial aid during the probationary period of enrollment but may be placed on suspension during subsequent periods if satisfactory academic progress is not resumed.

Students Repeating an Academic Year

If students are required to repeat an academic year, they continue to be eligible to receive federal student aid for the repeat period as long as they are not on financial aid suspension and remain within

the maximum timeframe allowed for their level of student (undergraduate or graduate). The student will meet with a financial aid officer to discuss their enrollment status and federal aid eligibility.

Maximum Time Frame

Students must complete their degree programs in 150% of the scheduled program length of time. Students pursuing professional pharmacy degree program must complete their degree program within six years to remain eligible for Title IV financial aid.

Students pursuing a bachelor's degree must complete their degree program in six years to remain eligible for Title IV funds.

Students pursuing a graduate degree must complete their degree program in three years to remain eligible for Title IV funds.

Quantitative Evaluation, Incomplete Grades, Course Withdrawals and Course Repetitions

Students may continue receiving federal student aid in semesters immediately following those in which an incomplete grade or course withdrawal (W) is received, as long as the student is not otherwise eligible for financial aid suspension and is still on pace to graduate within the maximum time frame.

Students must have successfully completed (passed) at least 67% of the total credit hours that they have attempted at the time of evaluation. Courses from which students withdraw earning a W on their transcript are counted as hours attempted, though they are not used in grade point average calculations.

Credit hours transferred from another institution that are accepted toward a student's degree program count toward a student's attempted and completed credit hours in the quantitative evaluation. Students failing to achieve these benchmarks may be permitted to continue pursuit of their declared degree program, but eligibility to receive Title IV aid is affected. Students attempting more than 1.5 times the total credit hours required to complete their degree program will be subject to financial aid suspension. For example, students must complete the 120 credit hours required to earn a Bachelor of Science in Pharmaceutical Sciences in no more than 180 attempted credit hours.

Students may receive federal student aid for a passed course taken a second time (first repeat of passed course). After enrolling in a passed course twice, students will no longer have the course's credit hours calculated for student enrollment status for federal financial aid eligibility. Students may receive federal student aid for repeated failed courses until a passing grade is earned.

All incomplete grades must be resolved in accordance with academic policies listed in the Academic Records portion of this Academic Catalog. Unresolved incomplete grades converted to failing grades result in a new review of students' satisfactory academic progress from the previous enrollment period.

FINANCIAL AID VERIFICATION POLICY

Verification is the process of checking the accuracy of the information supplied by financial aid applicants on the Free Application for Federal Student Aid (FAFSA).

The verification requirements delineated in this policy statement apply to all applicants for federal student aid under the following programs:

- The Federal Pell Grant Program
- The Federal Supplemental Educational Opportunity Grant Program
- The Federal Work-Study Program
- The Federal William D. Ford Direct Loan Program

For verification purposes, the University defines a financial aid applicant as an enrolled student who is eligible to receive a federal financial aid award. Aid is not to be disbursed from any of the federal programs until verification processing is complete.

Verification Selection

It is University policy to verify all applicants selected for verification by the Central Processing System (CPS) and all Health Professions Loan recipients not selected by the CPS. The University also reserves the right to select additional applications for verification. UHSP follows U.S. Department of Education guidelines on verification selection and completion.

Notification of Selection

The student's federal Student Aid Report (SAR) indicates whether the student's file has been selected for verification. The SAR is typically accessed via a link sent to the student by the Department of Education after the student files their FAFSA. If the student is selected for verification, there will be an asterisk* next to their Expected Family Contribution (EFC) figure on their SAR.

The student receives notification via email from the Office of Financial Aid alerting them of their selection and detailing the additional documentation they are required to submit before their financial aid awards are considered official and disbursable. This statement is sent when the Office of Financial Aid sends notification of the student's award package which typically occurs within weeks of their FAFSA submission.

Verification Documentation

The University encourages all eligible FAFSA filers to use the IRS Data Retrieval Tool to import financial information from the IRS into the FAFSA to ensure accuracy and reduce documents that must be submitted to satisfy verification selection.

Dependent students selected for verification must submit a Federal Dependent Verification Worksheet signed by the student and a parent. Parent and student tax return transcripts may be obtained from [irs.gov](https://www.irs.gov) for selected students who do not use the IRS Data Retrieval Tool. Signed copies of tax returns may be submitted in place of tax return transcripts. Individuals reporting income, but not required to file a federal tax return must submit copies of all federal W-2s received the reported tax year.

Independent students selected for verification must submit a Federal Independent Verification Worksheet signed by the student and their spouse (when applicable). Student and spouse (when

applicable) tax return transcripts must be obtained from [irs.gov](https://www.irs.gov) for selected students who do not use the IRS Data Retrieval Tool. Signed copies of tax returns may be submitted in place of tax return transcripts. Individuals reporting income, but not required to file a federal tax return must submit copies of all federal W-2s received the reported tax year.

Verification Submission Deadlines

The University strongly recommends all verification documents be submitted to the Office of Financial Aid within three weeks of the University's notification of selection. The official submission deadline for Pell grants, regulated by the U.S. Department of Education, will be followed at the University and can be located in the Federal Register. No federal, state and institutional aid will be disbursed until all required verification submissions are received by the Office of Financial Aid.

Applicant Correction and Notification Procedures

The Office of Financial Aid will electronically submit to the Central Processor System corrections to the FAFSA data resulting from verification. The Central Processor System will then send an SAR Information Acknowledgment to the applicant as notification of these corrections. Applicants will also be notified of award changes resulting from verification by the receipt of an updated award notification from the Office of Financial Aid.

Verification Items

Students are classified by the U.S. Department of Education into three verification groups. Items verified are directed by this classification. All Health Professions Loan recipients not selected for verification will be subject to the V1 Standard Verification Group classification.

Financial Aid Standard Verification Group

DATA ELEMENT	STUDENT	PARENT/SPOUSE	DOCUMENTATION
Household size	YES	YES	Dependent Verification Worksheet
Number in college*	YES	YES	Dependent Verification Worksheet
Adjusted gross income	YES	YES	IRS Data Retrieval/Tax Return Transcript
U.S. income tax paid	YES	YES	IRS Data Retrieval/Tax Return Transcript
Other untaxed income	YES	YES	IRS Data Retrieval/Tax Return Transcript
Education tax credits	YES	YES	IRS Data Retrieval/Tax Return Transcript
IRA and KEOGH/SEP deductions	YES	YES	IRS Data Retrieval/Tax Return Transcript

*Parents in college are not included.

V1 – Standard Verification Group

V5 – Aggregate Verification Group

High school completion status
Identity/Statement of Educational Purpose
All items listed in the V1 group

Individuals reporting income, but not required to file a federal tax return must submit copies of all federal W-2s received the reported tax year.

UNIVERSITY POLICIES AND INFORMATION

EQUAL OPPORTUNITY POLICY AND POLICY AGAINST DISCRIMINATION AND HARASSMENT

University of Health Sciences and Pharmacy does not discriminate on the basis of race, color, religion, national or ethnic origin, disability, age, gender, gender expression/identity, sexual orientation, veteran status or other protected class in admission, financial aid, athletics, or any of its educational policies and programs. The full policy can be [viewed here](#).

In addition, the University provides and promotes equal employment and equal employment opportunities without regard to race, color, religion, national or ethnic origin, disability, age, gender, gender expression/identity, sexual orientation, veteran status or other protected class. Harassment, including sexual harassment, directed at an individual or group based on actual or perceived status is prohibited. Sexual assault, dating violence, domestic violence, and stalking (collectively referred to as “relationship violence”) involving alleged violations by employees that are not covered under Title IX is also prohibited under this policy. Individuals making good faith complaints and opposing discrimination and harassment or participating in internal or external proceedings are protected from retaliation.

Pursuant to University obligations under Title VI and Title VII of the Civil Rights Act, and Section 504 of the Rehabilitation Act of 1973, the University has designated an Equal Employment Opportunity (EEO), and Section 504 Coordinator to implement and coordinate this policy. If you have questions about the policy, if you believe that you are being discriminated against, harassed or retaliated against in violation of the this policy, or if you observe someone else being subjected to such conduct prohibited under this policy, you can report the conduct to the EEO and Section 504 Coordinator or government officials:

EEO and Section 504 Coordinator

Dan Bauer, PHR

Assistant Vice President, Human Resources (CHRO)

314.446.8308

Jones Hall, Room 1309

daniel.bauer@uhsp.edu

Deputy EEO and Section 504 Coordinator for Students

Rebecca Jones, Ph.D.

Assistant Vice President, Student Affairs

314.446.8352

RAS, Room 410

rebecca.jones@uhsp.edu

U.S. Department of Education

Office for Civil Rights

Lyndon Baines Johnson Department of Education Bldg

400 Maryland Avenue, SW

Washington, DC 20202-1100

Telephone: 800.421.3481

FAX: 202.453.6012

OCR@ed.gov

Students with disabilities seeking academic accommodations should contact the Office of Campus Life:

Tiffany Atnip
Assistant Director of Access Services
Recreation and Student Center, Student Success Center
314.446.8355
tiffany.atnip@uhsp.edu

POLICY AGAINST SEXUAL HARASSMENT IN AN EDUCATIONAL PROGRAM OR ACTIVITY

Title IX of the Higher Education Act Amendments of 1972 (“Title IX”) prohibits discrimination on the basis of sex in educational programs or activities and employment. Discrimination on the bases of sex includes sexual harassment. University of Health Sciences and Pharmacy in St. Louis (“UHSP” or “University”) is committed to preventing sexual harassment in its programs and activities and complying with the requirements for handling reports of sexual harassment under Title IX. The University takes the safety and well-being of its students, faculty and staff seriously and offers many forms of educational and support services to prevent and address sexual harassment in the event that sexual harassment does occur.

The [policy](#) defines sexual harassment including quid pro quo, hostile environment, sexual assault, dating and domestic violence and stalking and establishes policies and procedures for reporting incidents, obtaining help from confidential and nonconfidential resources, and filing formal complaints with the University or law enforcement authorities. It also discusses internal investigations, conduct hearings, appeals and sanctions.

The University conducts education and training programs for all students, faculty and staff to raise awareness and help prevent incidents of sexual harassment. Furthermore, the University has authority and jurisdiction to impose sanctions on a student found in violation of laws and policies, regardless of whether the violation occurred on campus, off campus or at a University-sponsored event.

The University has initiated a reporting procedure designed to encourage any covered person under this policy to report any instance of sexual harassment covered in this policy to University officials.

The University encourages parties who believe they have experienced sexual harassment to report to somebody about what happened – so they can get the support they need, and so the University can respond appropriately.

A Complainant does not have to decide whether or not to request criminal reporting or pursue a formal complaint and adjudication processes at the time they report an incident.

A report to University officials (responsible employees, public safety, and Title IX coordinator/deputy coordinators) provides the institution with actual notice of an incident and requires follow up with a Complainant to discuss supportive measures, resources, and rights under this policy.

As with many problems you may encounter, reporting incidents is the only mechanism by which sexual misconduct offenders can be officially sanctioned by the University. This also reduces the risk of repeat

occurrences. All students can obtain information and report incidents on a confidential or nonconfidential basis by contacting a University administrator or the St. Louis City Police.

The policy is quite extensive. Please refer to the Student Code or contact the following University officials should you have any questions, concerns or a need to learn more about the policy.

Pursuant to University policy, and Title IX of the Higher Education Amendments of 1972, the University has designated a Title IX coordinator to implement and coordinate this policy. Additionally, the University has designated a deputy Title IX coordinator for students (“deputy coordinator for students”) who reports to and assists the Title IX coordinator to effectively administer this policy for students. If you have questions about the policy, if you believe that you are being sexually harassed or retaliated against in violation this policy, or if you observe someone else being subjected to such conduct, you can report the conduct to the Title IX coordinator. Complaints against students can also be reported to the deputy coordinator for students. The Title IX coordinator or the deputy coordinator for students will oversee the complaint process to enable the University to best assess, respond, and investigate complaints to eliminate events, prevent their recurrence, and address the effects on the Complainant and others. Additionally, the Title IX coordinator is responsible for coordination and oversight of the administration of this policy including processing and investigation of formal complaints, disciplinary proceedings and sanctions, reporting, education, and awareness of prohibited conduct and this policy, training of personnel, and conducting an annual review of the effectiveness of the University’s prohibited conduct programs.

Contact information for the Title IX coordinator and deputy coordinator for students is listed below:

Title IX Coordinator

Daniel Bauer, PHR
Assistant Vice President, Human Resources (CHRO)
314.446.8308
Jones Hall, Room 1309
daniel.bauer@uhsp.edu

Deputy Title IX Coordinator for Students

Rebecca Jones, Ph.D.
Assistant Vice President, Student Affairs
314.446.8352
RAS, Room 410
rebecca.jones@uhsp.edu

IMMUNIZATIONS

The University requires all faculty, staff and students be fully vaccinated for COVID-19 or have an approved religious or medical exemption. UHSP also recommends boosters doses per CDC guidelines for COVID19. For the 22-23 school year, the University may consider surveillance COVID-19 testing among individuals who are not vaccinated or segments of the campus population if it is needed to help ensure the safety and well-being of our campus community. Students who fail to comply with applicable COVID-

19 vaccine and/or testing procedures will not be permitted to participate in campus activities or classes and may ultimately be disenrolled. Additional immunization requirements for professional pharmacy students are described in the Experiential Education Guidelines. Information regarding general immunization requirements for all admitted students can be found at uhsp.edu/admitted/next-steps/freshmen.html.

STUDENT CONDUCT

Students are expected to conduct themselves in a manner that will be a credit to the University and the professions of pharmacy and health care. Students are expected to observe the rules and regulations of the University as specified in the [Student Code](#). Any student found responsible for conduct detrimental to the best interests of the University may receive sanctions up to and including expulsion from the University. Additional professionalism expectations for professional pharmacy students are included in the Experiential Education Guidelines.

ACADEMIC AND PERSONAL SUPPORT

Student Success Center

Students at the University have access to a wide variety of resources to help them be successful academically and personally. The Student Success Center located on the fourth floor of the Recreation and Student Center provides one-stop access to these resources.

Academic Advising

Each student will be assigned an advisor who will help guide the student with academic, cocurriculum and career planning. Students in the undergraduate program will be assigned to an advisor from the College of Arts and Sciences or College of Global Population Health, respectively. Students in our professional program will be assigned to a faculty advisor from St. Louis College of Pharmacy, and graduate students will be assigned to a graduate faculty affiliated with the College of Graduate Studies.

In addition to advising, the Office of Campus Life offers individual academic coaching and advising for students that need a more comprehensive plan for success. These plans may include a change in study habits, improving time management skills or learning to better manage stress. Staff will help students develop a plan that best suits their needs and goals.

Transfer Mentor Program

The purpose of the Transfer Mentor Program is to help students joining UHSP from other academic institutions successfully adjust to a new environment and, in some cases, transition from a pre-health care curriculum into the professional program at the University. This program provides an increased awareness of the University's programs and resources while stressing the importance of campus involvement and community engagement.

Tutoring Program

The Tutoring Program is sponsored by the Office of Campus Life and is free to students. The goal of the program is to provide additional academic support to students in specific classes. The Tutoring Program is designed to improve the academic standing and successful retention of students through weekly review group tutoring sessions, private and small group tutoring.

Norton Writing Center

The Norton Writing Center, located on the 2nd floor of the library, is a free consulting service that offers one-on-one assistance from trained students with all types of writing. The center assists with resume and CV development, cover letters, essay-test writing and other writing topics. Students seeking additional language and writing support can meet with the Director of the Norton Writing Center. In addition, the center holds workshops and produces handouts for citation, style, grammar and punctuation.

Student Access Program

The Student Access Program, which supports the Americans with Disabilities Act (ADA) Program, is coordinated by the assistant director of accessibility services. They serve as the liaison between students, faculty and administration, advocating fair and reasonable student accommodations. Services for the Student Access Program can be found on the fourth floor of RAS, within the Student Success Center.

International Student and Scholar Support

The International Student and Scholar Support program aims to create a “home away from home” for international students and scholars, with key support functions such as assistance for international students and scholars navigating cultural interactions in class or in the workplace; support for international students and scholars experiencing culture shock; providing resources for bureaucratic acculturation; creating a vibrant and welcoming environment for social and extra-curricular activities; and offering resources for faculty and staff to bridge cultural differences with students and scholars as well as maintain and advise on F-1 Student immigration records.

Center for Career Services and Education

Students and alumni can utilize the Center for Career Services and Education to develop career readiness competencies and receive career exploration support. The center provides educational resources and programming that prepares students to stand out during the hiring process. The Center for Career Services and Education is located on the fourth floor of the Recreation and Student Center, providing one-stop access to these resources. For more information, visit uhsp.edu/careercenter.

Library

The two-story library is located on the west end of the Academic and Research Building. Within the library, students, faculty and staff will find books, journals and other media. Not only does the library offer many educational resources, including a 24-hour librarian chat service, but it also provides a comfortable environment where students can read and study, and it has ample study space that is accessible 24/7.

The online portion of the library gives students the opportunity to explore what the library has to offer, with access to databases, e-books, electronic journals and interlibrary loan requests. For more information, visit uhsp.edu/library.

Wellness and Counseling Center

The Counseling Center is located on the fourth floor of the Recreation and Student Center. Counseling services are available for any students currently enrolled at the University. Students often seek therapy for adjustment to college, depression, anxiety, relationship issues and life transitions. These services are confidential, free of charge and are completely separate from your academic record. For more information, visit uhsp.edu/counseling.

Information Technology

Our IT professionals can assist students with computer support, database management and instructional media development. Contact the Technical Support Center at 314.367.8700 ext. 5555 for assistance. The center is open from 8:00 a.m. –4:30 p.m. Monday through Friday during the academic year. Virtual support is offered 8:00 a.m.–5:00 p.m. Monday through Friday by calling the Technical Support Center. Holiday hours are posted as needed.

NOTEBOOK COMPUTER PROGRAM

All students are required to have purchased a University of Health Sciences and Pharmacy in St. Louis (University) approved laptop prior to the start of classes. Students are encouraged to use this laptop for their entire college careers but may purchase a new laptop at any time. While personal use is permitted, students must be aware of appropriate use policies. Attempts to hack or break into any University system, user account or technology is strictly prohibited.

Students should be familiar with the operation of the notebook, and always contact the appropriate resources when problems or questions arise. Students may purchase additional accessories and peripherals for the notebook, but these must be limited to external components only. Internal components may not be upgraded or replaced by students. Students should ask a University of Health Sciences and Pharmacy in St. Louis help desk technician if they are unsure about any additions to the notebook. The student is ultimately responsible for the care and safety of the notebook. If it is damaged or stolen, then the student must follow established procedures.

Each student will:

- Sign an acceptable use policy and a responsibility agreement upon receipt of the computer.
- Be responsible for all policies and procedures as described in the acceptable use policy, responsibility agreement and the University of Health Sciences and Pharmacy in St. Louis notebook guide.

- Use the computer ethically and legally to enhance their educational experience. Comply with all applicable copyright and licensing laws and regulations when gathering or sharing information using this computer.
- Adhere to the software license agreements for all applications installed on the computer.
- Limit upgrades and additions to external peripherals only and not upgrade or replace any internal components. Only University of Health Sciences and Pharmacy in St. Louis or Lenovo Notebook technicians are authorized to upgrade/replace internal components. Failure to comply could void the computer warranty.
- Promptly inform University of Health Sciences and Pharmacy in St. Louis in the case of theft, follow all applicable reporting procedures and take responsibility for any replacement costs.
- Promptly bring the computer to the shop if damaged and pay for any incurred cost.
- Back up data regularly as outlined in the training materials and understand that the University is not responsible for any loss of data.

For additional information, please call the University of Health Sciences and Pharmacy in St. Louis help desk at 314.367.8700, ext. 5555.

INTERNATIONAL TRAVEL

Any student participating in international travel funded by University of Health Sciences and Pharmacy in St. Louis, awarded credit by the University, or otherwise sponsored or supported by the University, including but not limited to international trips in connection with a University-recognized and University-funded student organization, must receive authorization by following the University's International Travel Policy. The University cautions students against unauthorized international experiences for safety, health and liability reasons (see [P. 25](#) for more information on Professional Liability Insurance). The complete International Travel Policy and detailed requirements are available at policies.uhsp.edu.

COMMENCEMENT CEREMONIES

University of Health Sciences and Pharmacy in St. Louis normally holds commencement exercises in May which include the awarding of undergraduate degrees (for Professional Year 1 students or senior students who have completed all degree requirements), M.S. degrees and the Doctor of Pharmacy (for Professional Year 4 students who have completed all degree requirements). Students anticipated to complete all required degree requirements by December 31 of the graduation year are eligible to participate in the May commencement exercises.

If fees or obligations to the University remain unpaid after the student has graduated or leaves the school, the University reserves the right to withhold applications for state board examinations, academic transcripts, and the student's diploma.

ACADEMIC RECORDS

Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act (FERPA) is a federal law designed to protect the privacy of students' educational records.

Parents' Rights

The rights of FERPA, originally given to parents of students in K-12, are transferred to their students once they begin college. According to FERPA guidelines, all rights of parents (including the right to examine education records and consent to the disclosure of personally identifiable material) transfer to the student either at age 18 or upon attendance at an institution of postsecondary education. Educational information will be released to a student's parents only with the written consent of the student or if the student is claimed as a dependent on the parents' federal income tax return.

The following process should be followed by parents seeking information contained in their student's education records:

- The parent should make their request in writing, indicating the particular records requested and declaring specifically that the student is the requestor's dependent.

University of Health Sciences and Pharmacy in St. Louis must ask for the federal income tax form filed by the parents for the most recent tax year. This means the requesting parent must provide a copy of the federal income tax form for the current year. It cannot be a tax form from several years ago. The University will then verify that the student is indeed listed as a dependent on the tax form of the requesting parent. Once verification is made, the form will be given back to the parent and a note will be made on the request form that the verification was made.

Because the FERPA rights belong to the eligible student, the University will notify the student that their parents have asked to review their records and on what date the review will take place. If the student responds that they do not want the records shared with the parents, the University will refer the parents back to the student. At this point, a written consent is required from the student.

A one-time authorization to disclose educational records may be requested by the student in the Office of the Registrar.

Spouses' Rights

FERPA recognizes a spouse as an unrelated third party and does not make any provision for a spouse to have access to a student's educational records without the written consent of the student.

Students' Rights

FERPA affords students certain rights with respect to their education records. They are:

The right to inspect and review their education records within 45 days of the day the University receives a request for access.

Students should submit to the Office of the Registrar, the appropriate Office of the Dean, the chair of the academic department, the director of community standards or another appropriate official written requests that identify the records they wish to inspect. The University official will make arrangements

for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of their right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

The right to consent to disclosure of personally identifiable information contained in their education records, except to the extent that FERPA authorizes disclosure without consent.

One exception that permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill their academic or enrollment services responsibilities. A school official is a person employed by the University in an administrative, supervisory, academic, research or support staff position (including law enforcement unit personnel and health staff), a person or company with whom the University has contracted (such as an attorney, auditor or collection agent), a person serving on the board of trustees or a student serving on an official committee, such as disciplinary or grievance committee, or assisting another school official in performing their tasks.

Upon request, the University discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

Disclosure without consent also may be made to:

- a. Certain government officials in order to carry out lawful functions
- b. Appropriate parties in connection with financial aid to a student
- c. Organizations doing legitimate studies for the school accrediting agencies
- d. Individuals who have obtained court orders or subpoenas
- e. Persons who need to know in cases of health or safety emergencies
- f. State and local authorities to which disclosure is required by state laws
- g. Schools also may disclose, without consent, directory information unless notified in writing by the student to the Office of the Registrar. University of Health Sciences and Pharmacy in St.

Louis has designated the following as directory information:

- a. Name
- b. Address
- c. Telephone number
- d. Date of birth
- e. Enrollment status
- f. Dates of attendance (including whether currently enrolled)
- g. Degree awarded
- h. Photograph
- i. Email address
- j. Honors and awards
- k. Participation in officially recognized activities and athletics
- l. Height and weight of athletes

An eligible student who does not wish for directory information to be released without consent must notify the Office of the Registrar within the first 10 days of the term. If this notification is not received prior to this deadline, it will be assumed that the directory information may be disclosed for the remainder of the current academic term. Notification for nondisclosure must be sent to the Office of the Registrar each academic term.

In some cases, the University will disclose students' personally identifying information from students' education records in order for an outside service provider to deliver certain services such as delivery of an online education course or collection of a delinquent student loan. FERPA permits the disclosure of personally identifying information from education records to contractors, consultants, volunteers, or other third parties provided that the outside party:

1. performs an institutional service or function for which the University would otherwise use employees;
2. meets the criteria set forth in the University's annual notification of FERPA rights for being a school official with a legitimate educational interest in the education records;
3. is under the direct control of the University with respect to the use and maintenance of education records;
4. agrees to use the education records only for authorized purposes; and
5. agrees to refrain from redisclosure of personally identifying information from education records to other parties without the University's authorization.

Students may request a copy of documents describing the University's accreditation, federal eligibility certification and state eligibility certification by submitting a written request to the Office of the Registrar.

University Complaint Policy

Students may file a formal complaint against the University that is inconsistent with laws, policies, or the University's mission and values. The University has established a confidential Hotline and offers several options to remain anonymous and file a complaint. Formal complaints will be tracked and promptly responded to within a reasonable time after receipt the complaint by the appropriate dean, Vice-President, or the University's attorney depending upon the nature of the complaint. Information regarding how to file a complaint can be found at: [Ethics and Compliance Hotline \(uhsp.edu\)](https://uhsp.edu/ethics-compliance-hotline).

The right to file a complaint with the U.S. Department of Education concerning alleged failures by University of Health Sciences and Pharmacy in St. Louis to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:

Family Policy Compliance Office

U.S. Department of Education

400 Maryland Ave., SW

Washington, DC 20202-5920

ed.gov/category/keyword/family-policy-compliance-office-fpco

Any student may file a complaint concerning an alleged violation of the Higher Learning Commission Accreditation Standards by submitting a written complaint to hlcommission.org/Student-Resources/complaints.html.

Any student who wishes to file a formal complaint concerning an alleged violation of the ACPE Accreditation Standards 2016 can do so by submitting the complaint in writing to ACPE.

Accreditation Council for Pharmacy Education
190 S. LaSalle Street, Suite 2850
Chicago, IL 60603-3499

Students may file a complaint online at acpe-accredit.org/complaints.

Any student may file a complaint concerning an alleged violation of the Missouri Department of Higher Education Institutional Eligibility Standards by submitting a written complaint to:

Missouri Department of Higher Education
205 Jefferson St.
P.O. Box 1469
Jefferson City, MO 65102-1469

Classification of Students

Each fall and spring semester lasts approximately 15 weeks. For undergraduate students, full-time status means 12 or more credit hours must be taken in a semester. Those students taking at least six, but less than 12, credit hours are classified as half-time. Any undergraduate taking less than six credit hours is classified as less than half-time. Enrollment in more than 18 credit hours in a semester is considered an overload and the student must pay additional tuition and have the Office of the Dean's approval.

For all professional students, except students in the last year of the professional program (P4 year), full-time status means 12 or more credit hours must be taken in a semester. Those students taking at least six, but less than 12, credit hours are classified as half-time. Any professional student taking less than six credit hours is classified as less than half-time. Enrollment in more than 18 credit hours in a semester is considered an overload and the student must pay additional tuition and have the Office of the Dean's approval. In the last year of the professional program (P4 year), students must take 10 or more credit hours to be considered full-time. A student taking five to nine credit hours is classified as half-time. P4 students taking less than five credit hours are classified as less than half-time.

Graduate students must enroll in a minimum of 6 credit hours per semester to be classified as full time. Those students taking at least three credit hours are classified as half time. Any graduate student taking less than three credit hours is classified as less than half time. They must take a minimum of one graduate credit that contributes to degree requirements (as determined by the graduate program) per academic year (fall, spring, and summer semesters) to maintain active status in the graduate program. Enrollment in more than 18 credit hours in a semester is considered an overload and the student must have the graduate program's approval.

For enrollment reporting, the Office of the Registrar will use the last date of final exams as the final date of a semester. The last date of required attendance or academic activity in the last year of the professional program will be used for the exit date of students graduating from the professional program.

Undergraduate students are classified according to the number of earned credit hours, including transferred credit. The required number of hours for each classification is:

CLASSIFICATION	SEMESTER HOURS OF EARNED UNDERGRADUATE CREDIT
First-Year Student (FR)	Fewer than 30
Sophomore (SO)	30-59
Junior (JR)	60-89
Senior (SR)	90 or more

Students are classified after course registration and prior to the start of each fall semester based on official academic records on file with the Office of the Registrar at that time. Students may be reclassified before the start of each fall semester, but no classification changes will be made after the tenth day of the fall semester. Reclassification may occur in the spring semester when a student exits one college at UHSP and enters another. All undergraduate students are assigned an anticipated graduation date based on the expected date of bachelor's degree conferral for their respective classification. Upon entry into the professional program, students are assigned a (professional) division with an expected date of Doctor of Pharmacy conferral. Professional program students are classified (P1, P2, P3 or P4) based on this expected date of completion. Upon entry into the graduate program, students are assigned a graduate division with an expected date of graduate degree conferral. Graduate students are classified (G1 or G2). The required number of hours for each classification is:

CLASSIFICATION	SEMESTER HOURS OF EARNED GRADUATE CREDIT
G1	Fewer than 15
G2	15 or more

Registration

(Excluding concentrated experiential courses – See Professional Policies and Information)

Registration is an official part of the academic year. By registering, the student subscribes to the terms and conditions, financial and otherwise, which have been set forth by the University. Under no circumstances is a student allowed to attend a class without officially registering for the course online or in the Office of the Registrar. Academic credit is not to be awarded if the student is not registered. A correct registration is the responsibility of the individual student.

Each fall and spring semester the University schedules 3-5 weeks of preregistration to allow for academic advising. All students must meet with an advisor, submit all required advising documents and have no account hold to be eligible to register. Lecture-based class sessions are typically 50 minutes per credit hour. Laboratory periods and discussion and recitation periods are typically two or three hours per credit hour. For every hour of didactic instruction, students can expect to spend a minimum of two hours of work related to course preparation, which may include reading, researching, writing, viewing online lectures and studying for quizzes and exams.

Students in the professional pharmacy program are automatically registered for concentrated introductory pharmacy practice experiences (summer P2 and P3) and advanced pharmacy practice

experiences (P4) based on individual placements. During these courses, students spend 40 hours per week in assigned, University-approved pharmacy practice sites. Students can expect additional work related to course preparation outside of the on-site hours.

Students may add a didactic course to their schedule within the first 10 days of the semester (or first two days of a summer session under normal circumstances) with permission of the instructor.

Students in the professional program and the graduate program cannot drop or withdraw from required courses that are prerequisites for courses taught in the subsequent semester, regardless of their academic performance in such courses, unless extenuating circumstances exist and the appropriate Office of the Dean has approved.

Students may drop other didactic courses within the first 10 days of the semester (or first two days of a summer session). A student may withdraw from other courses with a grade of W with permission from the instructor, the academic advisor and the Office of the Registrar, through the 11th week of the semester (or the first week of a summer session). The specific date for withdrawing from courses will be announced at the beginning of each semester.

Occasionally, a person not registered with the University or a student enrolled at the University may audit (AU) a course. Academic credit cannot be granted for an audited course. Individuals are permitted to audit a course only when classroom space is available. The course instructor or the appropriate Office of the Dean may refuse any request to audit a course. Permission to audit a course entitles the person to attend class, but not to take exams or complete graded assignments. To have documentation that an individual audited the course or to have the audit appear on a transcript, arrangements must be made with the instructor at the beginning of the course so that attendance throughout the semester can be verified. Students taking at least 12 credit hours of regular courses may audit a course at no additional cost. Students taking less than 12 credit hours are charged \$100 per course audited.

A permanent record of student progress is maintained by the Office of the Registrar. Students can examine their personal records at any time during the school year.

Students are responsible for following academic procedures and meeting degree requirements in order to graduate.

Leave of Absence

University of Health Sciences and Pharmacy in St. Louis recognizes that there are situations when a student may require a leave of absence. If such a situation arises, a student-initiated, written request must be submitted to the appropriate Office of the Dean. This letter must include the reason for the requested leave and the expected time period.

The student normally receives a letter from the appropriate Office of the Dean within five business days stating approval or disapproval of the leave, and any considerations for requirements to return, including an expected date of return. If the student does not return by the expected date of return and is not granted an extension by the appropriate Office of the Dean, the student will be considered unofficially withdrawn from the University. Leaves normally are permitted for a maximum of one year and are issued for medical or personal reasons. Students returning from a leave return to a curriculum in the academic catalog of the academic year of return or academic year determined by the appropriate

Office of the Dean. Classes taken outside the University during the period of the leave are not accepted as transfer credits. Exceptions to this policy will be determined by the appropriate Office of the Dean.

A leave requested after the official withdrawal date in a semester will be granted only if there are serious extenuating circumstances.

Withdrawing from the University

All students seeking to withdraw from the University are strongly encouraged to initiate the official withdrawal process by contacting the Office of the Registrar (second floor of the Academic and Research Building). The date when the student initiates the withdrawal process will be recorded as the last date of attendance, unless a more accurate date is agreed upon by the student and the student's course faculty. The Office of the Registrar will notify all appropriate departments of the student's exit from the University. The last date of final exams for the most recently completed period of enrollment will be recorded as the final date of attendance for the student officially withdrawing at the end of, or between, periods of enrollment.

Students who do not notify the Office of the Registrar of their intent to withdraw will be considered unofficially withdrawn from the University. More specifically, students are considered unofficially withdrawn if:

- They do not register for an immediately subsequent semester without notifying the Office of the Registrar of their intent to leave the University.
- Students earn failing final grades (F) in all courses they were registered in for the semester due to a lack of academic activity.
- Students begin a period of enrollment but are noted as absent throughout the period.

The Office of the Registrar attempts to discover a consensus last date of attendance for unofficially withdrawn students by contacting the students' course faculty. The Office of the Registrar will use the students' last date of final exams for the semester in question when consensus for the last date of attendance is unobtainable from faculty. Students continually noted as absent (normally reported by faculty) throughout the semester receive a final date of attendance that is the midpoint date for the semester (50%).

Students who officially or unofficially withdraw from the University may apply for readmission by submitting a new application to the Office of Admissions.

Students who are dismissed from the University for any reason may apply for readmission by submitting a new application to the Office of Admissions for entry no sooner than two full academic terms (fall and spring) after the date of the dismissal. The application is reviewed by the appropriate Admissions and Progressions Committee or Graduate Council. Please refer to the Office of Admissions for application deadlines.

Grades

Final course grades are available to students via Campus Web immediately following the end of each semester and are not available verbally to students through the Office of the Registrar. Students questioning their grades should discuss the matter with the instructor as soon as possible after grades

are issued. Students requesting a didactic grade change must do so according to the Grade Dispute Policy described in the Student Code. Professional pharmacy students refer to the Experiential Education Guidelines for experiential grade change requests.

Computation of Scholastic Standing

University of Health Sciences and Pharmacy in St. Louis uses the 4.0 grading system to determine grade point average (GPA). GPA is calculated by multiplying the number of credit hours for a given course by the number of grade points for the letter grade received, totaling the grade points earned, and dividing that total by the number of credit hours attempted.

Passing grades in advanced pharmacy practice experiences and introductory pharmacy practice experiences are indicated by the letter grades A through C. Any grade below C is indicated by the letter grade F and the rotation must be repeated. (Note: A letter grade of C- is considered to be less than C)

Passing grades in graduate division courses are indicated by the letter grades A through C-. Any grade below C- is indicated by the letter grade F.

A grade of incomplete (I) can be given by a faculty member if the student is unable – due to extenuating circumstances such as illness or injury – to complete all of the required coursework during the semester. Ordinarily, an I is not to be given to allow a student to redo coursework previously completed in an effort to improve the student's grade in the course. Incomplete grades normally must be made up no later than 10 school days following the beginning of the next semester. Extensions may be granted by the appropriate Office of the Dean. Otherwise, the I is converted to an F.

For some courses in the professional program, students who do not meet course competency standards as defined in the course's syllabus, may qualify for remediation and reevaluation of the course instead of needing a full repeat or retake of the course the next time the course is normally offered. Students who qualify for remediation and reevaluation in a course will be issued a Remediation Pending (RP) until the remediation and reevaluation process is completed.

If the remediation and reevaluation is successfully completed, the RP will be replaced with the appropriate course grade. If remediation and reevaluation is not successfully completed, the RP will be replaced with the appropriate grade and the student will be required to repeat or retake the course in its entirety the next time it is normally offered. Please refer to course syllabi for the remediation and reevaluation policy and process used in the course.

Grade Point Average (GPA)

Three separate division GPAs may be reported on the student's transcript: Semester GPA and cumulative GPA in the undergraduate division, semester GPA and cumulative GPA in the professional division and semester GPA and cumulative GPA in the graduate division. No course will be calculated in more than one cumulative division GPA. All coursework taken at the University is included in the all-divisions career GPA.

Calculating Grade Point Average (GPA)

$$\text{GPA} = \frac{\text{(credit hours)} \times \text{(grade points)}}{\text{(credit hours)}}$$

(credit hours attempted)

GRADE	GRADE POINTS
A	4.00
A-	3.70
B+	3.30
B	3.00
B-	2.70
C+	2.30
C	2.00
C-	1.70
D+	1.30
D	1.00
D-	0.70
F	0.00

TG Transfer Grade	2.00
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NO EFFECT on GPA
AU: Audit/No Grade
CR: Credit
I: Incomplete
NC: No Credit
P: Pass
PH: Pass with Honors
RP: Remediation Pending
SP: Satisfactory Pending
UP: Unsatisfactory Pending
W: Withdrawal
WIP: Work in Progress

Scholastic Honors

Graduating students are eligible for several awards. These awardees are determined by the faculty based on the specific criteria established for individual awards.

Dean's List

Undergraduate and professional students who maintain a semester average of 3.5 or better in a regular program of 12 or more credit hours for any semester are given Dean's list standing during the following semester.

Coursework Taken Outside the University

Students interested in completing coursework outside the University must submit a course transfer approval request to the Office of the Registrar. An external course syllabus is provided to the appropriate department chair or program director that at minimum contains the following information: course level, content, rigor, outcomes and textbook considerations. Upon approval by the department chair or program director and faculty expert, the Office of the Registrar completes the Course Transfer Approval and notifies the student. A record of all approved transfer credit will be maintained by the Office of the Registrar. The courses are reviewed for transfer eligibility every five years by a qualified faculty member. Courses taken outside of the United States must also be evaluated for U.S. institution equivalence by an organization approved by the Office of the Registrar.

A maximum of six hours of professional electives may be transferred in for credit. Credit will not be awarded for courses completed more than seven years prior.

Up to 20% of the total hours required for a master's degree program may be transferred in for credit.

Approval will not be given to take coursework outside the University if the student's schedule can be reasonably modified to accommodate enrollment in the course during the same fall, spring or summer semester, or if such work will result in less than full-time study at the University during the semester in which the course normally would have been taken. Exceptions require approval from the appropriate Office of the Dean.

Courses taught at the University cannot be taken outside the University if the student is retaking the course due to having received a poor grade in that course or due to withdrawing from the course. Exceptions require approval from the appropriate Office of the Dean.

Upon receipt of an official transcript, admissible coursework completed outside the University will be transcribed as credit (CR) and will not affect the student's University grade point average. No credit for undergraduate and professional courses will be transferred for grades less than C-. No credit for graduate courses will be transferred for grades less than B. Courses which award grades of pass/credit may be deemed acceptable with appropriate documentation.

Summer Sessions

Summer didactic sessions are typically five weeks long and students meet for the same number of hours as in a semester. For example, a 3-credit hour course meets three hours per week in a semester (45 hours) and in a 5-week summer session, a 3-credit hour course meets nine hours per week. Students may not take more than one course per 5-week summer session unless they receive permission from the dean of the respective college offering the course. For progression purposes, summer sessions are not considered to be regular academic semesters, which means summer does not count as a probation semester.

Changes in Degree Requirements

The University reserves the right to make additions or changes, as necessary, to the undergraduate, graduate or professional curriculum to better meet accreditation guidelines or reflect continuous quality improvement.

Students who remain in good academic standing will graduate under the curriculum in place at the time of their entry into the professional curriculum, with the exception that course topics, sequences or credit hours may be modified. However, the total credit hour requirement needed for graduation will not change and no retroactive requirements for courses completed will be made. Students who do not remain in good academic standing, and who repeat courses or curricular segments, may be behind a year or more, and if so, will be considered as part of that subsequent entering class. As such, they will be required to complete the curriculum in effect for that class.

Transcripts

Official and unofficial transcripts must be requested in writing and must bear the signature of the requesting student or may be requested online through the National Student Clearinghouse transcript services. Transcripts are issued only to students who are in good financial standing with the University and are processed within three business days, five business days during grading and registration periods.

UNDERGRADUATE POLICIES AND INFORMATION

Undergraduate Program Student Knowledge Domains and General Education Requirements

A primary purpose of the College of Arts and Sciences is to prepare students to lead useful and satisfying lives, to contribute and lead in their communities and to advance their chosen professions. To these ends, the University strives to provide its students a strong content foundation through a broad base of courses covering the following knowledge domains:

- **Humanities and Fine Arts (9 Cr. from at least two disciplines):** Students explore how historical and cultural contexts shape how individual and societal worldviews are informed.
- **Mathematical Sciences (3 Cr.):** Students solve mathematical problems from a variety of authentic contexts, use quantitative evidence to make appropriate conclusions, and communicate conclusions using a variety of quantitative formats.
- **Natural Sciences (6 Cr.):** Students investigate the natural sciences through coursework that exemplifies why scientific inquiry enhances our understanding of the natural world.
- **Oral Communication (3 Cr.):** Students examine how oral arguments can convey one's position while respecting the rights and needs of those whom with they are communicating.
- **Social and Behavioral Sciences (6 Cr.):** Students study the ways human behavior and social interactions influence individuals, groups and society.
- **Written Communication (6 Cr.):** Students explore how written arguments can clearly define and support one's positions on an issue.

Undergraduate Program Ability-Based Program Outcomes

While the general education courses establish a foundation for knowledge acquisition, the University's ability outcomes expand beyond content and focus on skills that are scaffolded throughout the undergraduate curriculum. Students are expected to develop and demonstrate the following skills in accordance with the University's ability outcomes:

- **Written Communication:** The graduate writes clearly and effectively to diverse audiences for a variety of purposes.
- **Oral Communication:** The graduate enhances shared understanding by listening to, interpreting, developing and expressing ideas, verbally and nonverbally, in oral formats, across a range of technologies and for a variety of purposes and audiences.
- **Critical Thinking:** The graduate systematically explores and analyzes issues, assumptions, evidence, ideas and events before accepting opinions or formulating conclusions.
- **Problem-Solving:** The graduate identifies problems and potential approaches for solving them and designs, implements and evaluates effective and appropriate strategies to arrive at viable solutions.

- **Quantitative Literacy:** The graduate has competency in solving problems from a variety of authentic contexts that require making appropriate conclusions and making arguments supported by numeric and other measurable evidence. The graduate communicates those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc. as appropriate).

Attendance Policy for College of Arts and Sciences and College of Global Population Health

The University encourages students to become involved in professional organizations on campus as a way to develop their leadership skills and to gain an appreciation for the role that such organizations play within their future professions. Students may be excused from classes for a maximum of three days to attend professional meetings, as long as the following criteria are met:

- The student must be in good academic standing. Any student on academic probation will not be excused from classes.
- The student must have demonstrated an active involvement in the student organization and must have the approval of the organization's faculty advisor (when appropriate) to attend.
- The student must make arrangements with any instructors whose class will be missed at least two weeks before the meeting to make up any course assignments or exams the student will miss while attending the professional meeting.

The University recognizes that our student body is culturally diverse. If a student's religious or moral convictions dictate that they observe holidays or religious events not provided for in the University calendar, the student should make arrangements with any instructors whose class will be missed to arrange for completion of any missed assignments or exams.

Students who are, or will be, absent from classes should notify the Office of the Dean through student forms in CampusWeb and their instructors directly by email. Students are responsible for making arrangements with their instructors to complete any missed work.

Repeating or Retaking Courses

When an undergraduate course is repeated or retaken at the University, the grade earned will replace the initial grade, even if that grade is lower than the initial grade.

Academic Probation and Dismissal

In accordance with Title IV regulations, a student attending University of Health Sciences and Pharmacy in St. Louis is required to remain in good academic standing and maintain satisfactory academic progress.

Undergraduate Program Probation Policy

A student will be placed on academic probation, and is considered not in good academic standing, if they earn a semester GPA less than 2.00 (even if the cumulative undergraduate program GPA is greater than 2.00). In order to be removed from academic probation, the student's semester and cumulative undergraduate program GPA at the end of the probation period (one semester) must be 2.0 or greater.

Undergraduate Program Dismissal Policy

A student will be subject to academic dismissal from the University for any one of the following reasons:

- Student is placed on academic probation in two consecutive semesters.

- Student is placed on academic probation for a third time (nonconsecutive).
- Student fails to meet probation requirements (if on probation from the previous semester). The procedures for appealing an academic dismissal are outlined in the Student Code.

Requirements for Graduation

Requirements include:

- A minimum of 36 credit hours of 300- or 400-level courses (transfer hour equivalency will be determined on an individual basis)
- A minimum of 48 credit hours that contribute to an undergraduate degree completed at the college
- A career GPA ≥ 2.0
- Completion of ≥ 120 credit hours
- Completion of two writing intensive courses
- Completion of all general education requirements including coursework in the following knowledge domains:
 - Written communication (6 Cr.)
 - Oral communication (3 Cr.)-Mathematical Sciences (3 Cr.)
 - Natural Sciences (6 Cr.)
 - Humanities and Fine Arts (9 Cr., from at least two different disciplines, with a limit of 3 Cr. of performance courses)
 - Social and Behavioral Sciences (6 Cr.)

Candidates for bachelor's degrees must complete the appropriate curriculum and required activities listed in this catalog, as well as be recommended for graduation by the faculty in the appropriate College.

PROFESSIONAL POLICIES AND INFORMATION

Admission into the Professional Program

Holistic Application Review

St. Louis College of Pharmacy uses a holistic application review for all applicants to the Doctor of Pharmacy program.

All applicants, including current undergraduate students enrolled at the University and external applicants, seeking entry into the Doctor of Pharmacy program in the fall 2023 semester and thereafter must submit their application through PharmCAS, the central pharmacy application system. Refer to the PharmCAS website (pharmcas.org) or the University website (uhsp.edu/admissions) for specific application and admission requirements. Applications sent directly to the University will be returned to the applicant for submission through PharmCAS.

Holistic admission into the professional program (P1 year) is based on the following, but not limited to, academic and nonacademic requirements.

Academic Requirements

Before entry into the professional program (P1 year), students are recommended to have:

- an undergraduate cumulative GPA of 2.7 or higher
- a core math and science GPA of 2.7 or higher
- no grades below a C- in prerequisite courses

[*See Professional \(P1\) Admission for a full list of prerequisite courses](#)

Nonacademic Requirements

In addition to successful completion of prerequisite courses and meeting the academic requirements, students must successfully complete an interview, essays and a writing proficiency assessment.

Interview

Students currently enrolled in undergraduate coursework at the University are able to sign up for an interview in September. Interviews are conducted during the fall semester and should conclude prior to final exams. Students who are unable to complete their interview during the fall semester, may have to complete the interview during the winter break. Student applicants from external institutions may also be interviewed at this time, as well as later throughout the semester as applications are processed. All travel related expenses are the responsibility of the applicant.

Students who are unable to attend their scheduled interview must contact the Office of the Dean of Pharmacy at least two weeks before the interview date. Absence due to illness or other emergencies requires immediate notification. Students who are late or absent without notifying the Office of the Dean of Pharmacy may be disqualified from consideration for admission into the professional program.

Writing Assessment

Students are required to demonstrate minimum acceptable writing proficiency through a writing assessment administered by the University. The Pharmacy College Admissions Test (PCAT) writing section results may be used in place of the University's writing assessment.

Essay Questions

All students seeking admission into the professional program complete four essay questions. These are completed in conjunction with the scheduled interview.

Decision Appeals

Students who are denied entry into the professional program due to academic or nonacademic performance may submit a written response to the St. Louis College of Pharmacy Admissions and Progressions Committee presenting additional information to the committee for reconsideration. The decision of the St. Louis College of Pharmacy Admissions and Progressions Committee is final.

Professional Program Ability Outcomes (St. Louis College of Pharmacy)

The following general outcomes and professional roles pertain to the professional program (i.e., Professional Years 1–4) implemented in fall 2016.

- **Critical Thinking:** The graduate systematically explores and analyzes issues, assumptions, evidence, ideas and events before accepting opinions or formulating conclusions.
- **Problem-Solving:** The graduate identifies problems and potential approaches for solving them and designs, implements and evaluates effective and appropriate strategies to arrive at viable solutions.
- **Creative and Innovative Thinking:** The graduate thinks and works in a manner characterized by imagination, innovation, divergent thinking and risk taking.
- **Written Communication:** The graduate writes clearly and effectively to diverse audiences for a variety of purposes.
- **Oral Communication:** The graduate enhances shared understanding by listening to, interpreting, developing and expressing ideas, verbally and nonverbally, in oral formats, across a range of technologies and for a variety of purposes and audiences.
- **Valuing and Ethical Decision-Making:** The graduate makes decisions about personal and professional conduct through a process that relates values to ideas, actions and consequences and uses clearly defined ethical principles.
- **Self-Awareness and Foundational Skills for Lifelong Learning:** The graduate exhibits intellectual curiosity, is self-aware, takes responsibility for developing knowledge, skills, attitudes, values and habits and conducts regular self-assessments to develop and enact a plan to improve performance, adapt to change and promote continuous personal and professional growth.
- **Conceptual Understanding of Scientific and Mathematical Principles:** The graduate develops, manages and applies a scientific and mathematical knowledge base to evaluate information in a variety of contexts. This ability may be expressed when a student is asked to extrapolate trends and patterns from existing data, explain social, natural or behavioral phenomena and predict probable outcomes.
- **Integrative Learning:** The graduate makes connections among ideas, bodies of knowledge and experiences to synthesize and transfer learning to new, complex situations.
- **Social Awareness and Cultural Sensitivity:** The graduate demonstrates self-knowledge and empathetic understanding of others, makes decisions informed by historical, aesthetic, cultural, social, behavioral, economic, political and global contexts and works responsibly and effectively with diverse populations.
- **Collaboration:** The graduate contributes to team tasks and responsibilities, facilitates participation of group members, fosters a constructive climate and manages and resolves conflict to strengthen overall cohesiveness and effectiveness.
- **Civic Engagement:** The graduate works to make a difference in their community.
- **Information Literacy:** The graduate determines the extent of information needed and identifies, locates, retrieves, evaluates and effectively and responsibly uses and shares that information to accomplish a specific purpose.

To successfully serve in the following professional roles, the integration of general ability outcomes is essential.

- **Patient-Centered Caregiver:** Provide patient-centered care as the medication expert utilizing sound therapeutic principles and evidence-based data, taking into account relevant legal, ethical, social, economic and professional issues, technologies and evolving pharmaceutical, biomedical, sociobehavioral and clinical sciences that may impact therapeutic outcomes.
- **Medication-Use Systems Manager:** Addresses patient health care needs using human, financial, technological and physical resources to optimize the safety and efficacy of medication-use systems.
- **Population-Based Care Provider:** Design prevention, intervention and educational strategies for communities to manage chronic disease, improve health and wellness, and describe how population-based care influences patient-centered care and influences the development of practice guidelines and evidence-based best practices.
- **Patient and Professional Advocate:** Promote the best interests of the patient, community and profession.

Technical Standards

Listed below are recommendations and information regarding the characteristics and abilities which University of Health Sciences and Pharmacy in St. Louis believes are important for student pharmacists to possess in order to be successful in the pharmacy curriculum and in subsequent practice as a pharmacist.

Any student pharmacist who has concerns that a disability may impact their ability to complete the program should contact the director of academic support who facilitates Access Services services. Student pharmacists who lack certain characteristics and abilities which are related to a documented disability, may request University of Health Sciences and Pharmacy in St. Louis to provide reasonable accommodations. Reasonable accommodations are defined as services provided to individuals with disabilities, medical conditions or temporary injury or condition that removes or lessens the effect of disability-related barriers. Examples include: providing sign language interpreters, furnishing written materials in large print, and making a facility or event physically accessible. Some individuals with disabilities may need reasonable accommodations to meet the Technical Standards, while others may not. The absence of some skills may lengthen the time to completion of the Doctor of Pharmacy (Pharm.D.) program and limit the variety of settings in which a student pharmacist or pharmacist can work. For more information on the University's compliance with the Americans with Disabilities Act (ADA), please refer to the Student Handbook or the Access Services information on the University website.

The standards detailed below are derived from a variety of sources specific to pharmacy education and the practice of pharmacy. These sources include:

- Code of Ethics for Pharmacists
- Oath of a Pharmacist
- Pledge of Professionalism
- Accreditation Council for Pharmacy Education (ACPE) Accreditation Standards 2016
- Student Code

University of Health Sciences and Pharmacy in St. Louis has a responsibility to the public to assure that its graduates become fully competent pharmacists. It is imperative that persons admitted possess each

of the five key categories (psychomotor abilities, communication, cognitive abilities, behavioral and social attributes, and ethical values) necessary to practice pharmacy. Each key category is defined, and specific examples related to the pharmacy curriculum and the practice of pharmacy are noted. In the event of deteriorating physical, behavioral, social or emotional abilities, student pharmacists may require counsel with school and University officials if there is evidence that they are not meeting the technical standards. Student pharmacists whose actions or decisions pose a danger to themselves, patients and colleagues may not continue in the program unless they agree to accept professional help under conditions acceptable to St. Louis College of Pharmacy. Revealed deficiencies of a current student pharmacists' ability to perform the Technical Standards may create barriers that could prevent the student pharmacist from continuing in the professional program at University of Health Sciences and Pharmacy in St. Louis.

Psychomotor Abilities

Use of the body associated with mental activity. During the curriculum, student pharmacists will be asked to:

- Observe lectures, demonstrations and experiments
- Use a computer for course-based activities
- Visually evaluate microscopic slides, pharmaceutical preparations and instrumentation data
- Observe a patient accurately at a distance and close at hand in settings such as an ambulatory care exam room, hospital room, operating room, etc. where blood and other bodily fluids may be present
- Perform basic life support (BLS)
- Demonstrate safe, sterile technique
- Prepare drug products (compound drug products, prepare IVs, and make capsules)
- Perceive the signs of disease or adverse drug effects through visual observation
- Perform physical exams using touch (e.g. use a stethoscope, take a pulse, perform a foot exam, etc.)
- Perform and demonstrate point-of-care testing (e.g. fingerstick of yourself and others)
- Administer immunizations

Communication

Imparting or interchange of thoughts, opinions, or information by speech, writing or signs. During the course of the curriculum, student pharmacists will be asked to:

- Communicate effectively in the English language (verbal and written)
- Document activities
- Speak, listen and read in order to elicit information (patient history, medication use, etc.)
- Effectively communicate with instructors, peers and patients
- Communicate with other health care providers
- Teach patients how to use health care related devices (inhalers, glucometers, etc.)
- Provide patients with clear, concise, accurate and audience-appropriate information
- Organize ideas and develop thoughts into coherent, appropriately written and referenced essays and research papers

- Interpret non-verbal communication (body language) from peers, patients, instructors and members of a health care team
- Utilize appropriate resources for communication with non-English speakers

Cognitive Abilities

Mental processes of perception, memory, judgment and reasoning. During the course of the curriculum, student pharmacists will be asked to:

- Accurately fill prescriptions
- Solve problems involving measurement, calculations, reasoning, analysis, synthesis and evaluation
- Gather and evaluate information from multiple sources to develop patient treatment and monitoring plans in a timely manner
- Demonstrate evidence-based decision-making
- Synthesize knowledge and integrate relevant information

Behavioral and Social Attributes

Characteristics of experience, behavior and interaction with people. During the course of the curriculum, student pharmacists will be asked to:

- Possess virtues such as honesty, integrity, altruism and dedication
- Place the welfare of their patients before all else
- Display attitudes such as empathy, care, compassion and social responsibility regardless of the age, race, creed, color, national origin, gender, sexual orientation, disability, marital status, disabled veteran or Vietnam era veteran status
- Promote confidence in their profession by exemplifying professional demeanor, respect and dignity in all interactions
- Demonstrate and achieve the values and goals of the three pillars of professionalism within the Student Code: Competence, Connection and Character
- Identify personal reactions and responses, recognize multiple points of view and integrate these appropriately into clinical decision-making
- Exhibit emotional stability and sufficient physical health to be able to perform in physically, intellectually and emotionally challenging workloads
- Function effectively under stress and adapt to an environment which may change rapidly without warning and in unpredictable ways

Ethical Values

Act in a manner that is right or moral. During the course of the curriculum, student pharmacists will be asked to:

- Demonstrate a professional demeanor, conduct and behavior that are appropriate to their standing in the professional program
- Meet the ethical standards set forth in the Code of Ethics for Pharmacists

- Obtain and maintain a valid Pharmacist Intern license in the State of Missouri and pass a criminal background check, drug screens, immunizations, health screenings, and trainings required by the Missouri Board of Pharmacy rules, Missouri law and University of Health Sciences and Pharmacy in St. Louis affiliated experiential sites and their accrediting and regulatory agencies

Attendance Policy for St. Louis College of Pharmacy

St. Louis College of Pharmacy expects student pharmacists to be present for activities noted as required according to the course schedule or syllabus. Student pharmacists are also expected to be present for all course-related assessments (e.g., exams, quizzes, case presentations, practicums, etc.). This is necessary to allow for efficient and effective teaching of the course material and for active learning during class sessions, as well as to show respect for instructors and to ensure the security of examinations, quizzes and other types of student assessments. However, St. Louis College of Pharmacy also recognizes that there are occasions when a student pharmacist's attendance at these activities is not possible or prudent.

The St. Louis College of Pharmacy Excused Absence Policy, found in the Student Code, informs P1-P3 student pharmacists on what an excusable absence is and how excused absence requests and approvals are processed. All P1, P2 and P3 student pharmacists who are requesting an excused absence from a professional program course should submit their request via the electronic absence request portal in Campus Web for approval by the Office of the Dean of Pharmacy.

Introductory pharmacy practice experiences (IPPE) courses taken during the fall and spring semesters follow the Excused Absence Policy. However, professional Year 4 (P4) student pharmacists on advanced pharmacy practice experiences (APPE) and P2 and P3 student pharmacists completing IPPEs for community and health system follow the excused absence policy Experiential Education Guidelines.

Concentrated Experiential Course Withdrawal Policy

Concentrated experiential courses include the introductory pharmacy practice experiences (IPPE) that occur over the summer or winter break and the advanced pharmacy practice experiences (APPE) in the last professional year. Only in cases of significant extenuating circumstances, students may withdraw from a concentrated experiential course prior to 20% of the total rotation time elapsing, with approval from the course coordinator and the director of the Office of Experiential Education. This is day five for an APPE and day three for a concentrated IPPE. After 20% of the rotation has been completed, withdrawals may only be permitted for significant extenuating circumstances with approval from the Office of the Dean of Pharmacy. After this time, there is no tuition refund for the course.

Students cannot drop APPE or IPPE rotations. Students must complete the Experiential Course Withdrawal Form and obtain the signatures of the director of the Office of Experiential Education and the Dean of Pharmacy if applicable. If approved, the Office of Experiential Education determines rescheduling possibilities. Withdrawal from experiential courses may delay graduation.

Repeating or Retaking Courses

When a professional course is repeated or retaken at the University, the grade earned will replace the initial grade, even if that grade is lower than the initial grade. If a student repeats a required professional course in years P1 through P3, the grade received in that course must be a letter grade of C- or better or the student is subject to academic dismissal.

Students in the professional program may not have any grades lower than C- in required courses (Professional Years 1-3). For students to enroll in a course, a grade of C- or greater must be earned in all prerequisite courses. Grades less than C- earned in required courses that are not prerequisites for a subsequent course must be remediated or repeated at the earliest opportunity.

For students in the last year of the professional program, the following policy will apply for all grades below C:

- If a student fails one rotation, they are placed on an academic leave of absence and are required to successfully complete a remediation plan before being allowed to continue on rotations. A return date is scheduled prior to beginning remediation but may be adjusted in accordance with the student's improvement plan progress.
- Remediation consists of an individualized improvement plan. Plans are developed by the Office of Experiential Education in collaboration with the Office of the Dean of Pharmacy as needed. Plans are determined based on areas that need significant development to provide the student additional support (academic or personal) to ensure their success on subsequent rotations. Students are required to demonstrate successful completion of the required components of the plan in order to return to rotations. Successful remediation varies in length based on the student's needed development and ability to demonstrate sufficient readiness to resume.
- Remediation could include, but is not limited to, auditing all or part of a course, independent study, skills-based competencies, top-drugs/ NAPLEX review, assignment practice, counseling, life organization skills, etc. The Assistant Dean for Student Academic Affairs determines that the student satisfactorily completed the terms of remediation. Successful remediation does not change the failed rotation grade and is required to be eligible to repeat the failed rotation. A student that has failed one rotation must repeat the same rotation type with a new site and preceptor.
- If a student fails a second rotation (of the same or different type), they are eligible for dismissal. Once a student is eligible for dismissal, the student is placed on an academic leave of absence. The leave of absence status continues until the student begins their next rotation (in case of successful appeals) or the dismissal is processed.
- Failure of any rotation generally results in scheduling changes and delayed graduation.

Remediating and Reevaluating Courses

Some courses in the professional program provide an opportunity for remediation and reevaluation. In these courses, students who do not meet course competency standards as defined in the course syllabus may qualify for remediation and reevaluation of the course instead of needing a full repeat or retake of the course the next time the course is normally offered. Students who qualify for remediation and reevaluation in a course will be issued a remediation pending (RP) until the remediation and reevaluation process is completed.

If the remediation and reevaluation is successfully completed, the RP will be replaced with the appropriate course grade. If remediation and reevaluation is not successfully completed, the RP will be replaced with the appropriate grade and the student will be required to repeat or retake the course in its entirety the next time it is normally offered, or the student may be subject to academic probation or dismissal if the resultant course grade contributes to any of the possible reasons for academic probation or dismissal as outlined in the Professional Program Probation and Professional Program Dismissal Policies below. As variation may exist between courses, please refer to course syllabi for the remediation and reevaluation policy and process used in the course.

Progression within the Doctor of Pharmacy (Pharm.D.) Program

Students entering the pharmacy program must complete all prerequisites for admission to the professional program. Once admitted, to progress through the professional program:

- All students must demonstrate competency on high yield medications (i.e., “top drugs”) knowledge. To ensure student competency, top drugs proficiency exams will be administered at the end of each semester (spring P1 through spring P3) and the summer after P1 year. Proficiency exam dates (including remedial exam dates) are scheduled at the beginning of the semester. Students must take the proficiency exam (and remedial exams, if needed) on the day it is scheduled. If a student does not demonstrate proficiency on the exam, they are responsible for self-learning the exam material and then retaking the exam on the next scheduled date. Students are not allowed to progress to IPPE or APPE courses in the next professional year until proficiency is achieved. After three unsuccessful attempts, students are required to meet with the Office of the Dean of Pharmacy before retaking the test.
- All students must pass a pharmacy calculations proficiency assessment in their last didactic semester prior to advanced pharmacy practice experiences (APPE). Failure to meet the proficiency standard requires remediation and delay the start of APPE courses.
- Cocurriculum requirements must be completed each year.
- Students in Professional Years 1-3 may not have any grades lower than C- in required courses. Students are required to remediate or repeat a required course to progress.
- A cumulative professional program GPA ≥ 2.0 is required before entering APPE courses.
- Students in Professional Year 4 may not have any grades lower than C in APPE courses to progress to the next course.
- All students in the Doctor of Pharmacy program must maintain a current Missouri pharmacy intern license throughout the program. In addition, any experiential education courses completed outside of Missouri require appropriate pharmacy licensure based on requirements outlined by those states and countries.
- Students must meet the requirements as outlined in the Experiential Education Guidelines for immunizations, screenings, background checks, trainings, and certifications.

For students in the Doctor of Pharmacy program, the University coordinates domestic and international professional liability insurance coverage for students in their P1–P4 years. All students are required to adhere to the requirements outlined for both domestic and international professional liability insurance coverage. [See P. 15](#) to review more detailed information.

Cocurriculum Requirements

Students in the professional program are required to participate in cocurriculum activities to help foster their professional development. Students are required to show competency by graduation in three cocurriculum outcomes: self-awareness and foundational skills for lifelong learning, civic engagement, and social awareness and cultural sensitivity. Practice opportunities for these outcomes are provided through required and elective activities.

Student progress related to these outcomes is supported and monitored through the faculty advising program and the Assistant Dean for Student Academic Affairs.

Pharmacy Curriculum Outcomes Assessment (PCOA)

All P3 students are required to take the Pharmacy Curriculum Outcomes Assessment (PCOA) exam during the P3 year (specific exam date to be determined each year). Students who do not meet minimum performance expectations on the PCOA exam are required to complete a remediation process during the P4 years.

Academic Probation and Dismissal

In accordance with Title IV regulations, a student attending University of Health Sciences and Pharmacy in St. Louis is required to remain in good academic standing and maintain satisfactory academic progress. Students are urged to read the following information carefully to be sure they know which policies pertain to them.

The following academic probation and dismissal policies apply to all students who entered the professional program prior to fall 2022.

Professional Program Probation Policy

A P1-P3 student who is not in good academic standing will be placed on academic probation for the following reasons:

- Student earns a semester professional program GPA less than 2.00.

Academic probation requires that a student's semester professional program GPA at the end of the probation period (one semester) is equal to or greater than 2.00.

Professional Program Dismissal Policy

A student is subject to academic dismissal from the University for the following reasons:

- Student fails to meet probation requirements (if on probation from the previous semester).
- Student earns a grade less than C- when repeating a required course.
- Student fails to receive a passing grade in at least 12 credit hours per semester (fall and spring) except under extenuating circumstances.
- Student is placed on academic probation for a second time in years P1-P3.
- Student fails a second APPE rotation (of the same or different type).

The Student Code outlines procedures that students who are eligible for dismissal can follow to request to continue in the academic program.

The following academic probation and dismissal policies apply to all students who entered the professional program during fall 2022 and thereafter.

Professional Program Probation Policy

A P1-P3 student who is not in good academic standing will be placed on academic probation for the following reasons:

- Student earns a semester professional program GPA less than 2.00.
- Student earns a grade less than C- in one or more required course(s) in a semester.

Academic probation requires that a student's semester professional program GPA at the end of the probation period (one semester) is equal to or greater than 2.00.

Professional Program Dismissal Policy

A student will be subject to academic dismissal from the University for the following reasons:

- Student fails to meet probation requirements (if on probation from the previous semester).
- Student is placed on academic probation for a second time in years P1-P3.
- Student fails a second APPE rotation (of the same or different type).

The Student Code outlines procedures that students who are eligible for dismissal can follow to request to continue in the academic program.

Completion of the Doctor of Pharmacy (Pharm.D.)

The Doctor of Pharmacy (Pharm.D.) is earned upon satisfactory completion of all Pharm.D. requirements. The professional program is four academic years. Requirements include:

- Satisfactory completion of all required coursework in Professional Year 1 through Professional Year 4 (130 semester hours)
- A minimum of nine semester hours of didactic electives (one of which must be a professional writing emphasis elective) and three semester hours of a capstone selective (12 semester hours)
- Successful completion of all cocurriculum requirements
- A cumulative professional program GPA ≥ 2.0 GPA
- A grade of C- or better in all required Professional Year 1 through Professional Year 3 coursework (professional electives will not meet the degree requirement with a grade lower than C-)
- A grade of C or better in each advanced pharmacy practice experience in Professional Year 4

Finally, candidates for the Doctor of Pharmacy must be recommended for graduation by the faculty from St. Louis College of Pharmacy, must be present at commencement exercises and must have paid all fees and obligations to the University.

Students in the professional program are also required to participate in cocurriculum activities to help foster their professional development. Required yearly activities include, but are not limited to, Professional Orientation, American Pharmacists Association Immunization certificate training and basic life support training. Students in the second professional year of the program are required to participate in an annual Advocacy Day activity such as attendance at either Missouri or Illinois Legislative Day.

In addition to the cocurriculum requirements above, professionalism concepts are emphasized in various courses. University of Health Sciences and Pharmacy in St. Louis aims to help students develop as professionals and value the professional habits expected of a pharmacist. Professionalism consists of an individual's competencies, virtues, attitudes and behaviors appropriate to a profession. A profession is distinguished from other work by the nature of the relationships between professionals and the people for whom they care and serve.

Pharmacists have covenantal relationships with their patients. That is, they are obligated to put the best interests of their patients ahead of their own. Pharmacists must be trustworthy. To earn the trust of the patients, pharmacists must operate upon values such as responsibility, a dedication to service, commitment to excellence and collaboration. They must be competent in the knowledge and skills that are required for their profession and must be dedicated to maintain that competency throughout their careers.

Pharmacists must possess virtues such as honesty, integrity and altruism and must display attitudes such as empathy, care, compassion and social responsibility. Finally, pharmacists should promote confidence in their profession by exemplifying professional demeanor in all interactions.

Also, students will be able to develop professionally via extracurricular activities and will receive guidance from their professional program advisor in all of these curricular, cocurricular and extracurricular experiences. All students in the professional program will be held accountable for, and graded on, professionalism in every course in the experiential curriculum. Unprofessional incidents on or off campus will not be tolerated and will be subject to review according to the Professional Misconduct process described in the Student Code.

Requirements for State Licensure

To practice pharmacy, one must become licensed as a pharmacist in the state in which they wish to practice. To become licensed as a pharmacist, candidates must meet the eligibility requirements for licensure and successfully pass the North American Pharmacist Licensure Examination (NAPLEX) and Multistate Pharmacy Jurisprudence Examination (MPJE).

St. Louis College of Pharmacy prepares a student for pharmacist licensure in Missouri and meets the relevant educational requirements for the state of Missouri.

While our curriculum meets the eligibility requirements for many states (e.g., graduation from an accredited college of pharmacy, and completion of >1600 experiential hours), these requirements are not uniform from state to state. Therefore, students should obtain information regarding state licensure, examination, educational and practical experience requirements from the board of pharmacy for the state in which they plan to be licensed. The University has not made a determination that the

pharmacy program meets any other state's educational requirements for licensure. **It is important for you to know the specific requirements of the state in which you intend to apply for licensure.**

In the United States, a pharmacist must pass two standardized examinations to be licensed in a particular jurisdiction or state. The North American Pharmacist Licensure Examination (NAPLEX) evaluates general practice knowledge. The Multistate Pharmacy Jurisprudence Examination (MPJE) assesses the federal and state laws that affect pharmacy in that specific jurisdiction/state. The National Association of Boards of Pharmacy (NABP) develops the competency statements for these exams. Generally, pharmacists must pass the NAPLEX once, but the MPJE for each jurisdiction they practice in. Both NAPLEX and MPJE are standardized, computer-based exams administered at specific testing centers across the country. For specific information, students should contact the board of pharmacy in the state in which they plan to be licensed and consult the [National Association of Boards of Pharmacy \(NABP\) website](#).

GRADUATE POLICIES AND INFORMATION

Attendance Policy for the College of Graduate Studies

Students are expected to attend classes regularly and complete all of their work, including assessments, tests, written work, and other class activities. No right or privilege exists that permits a student to be absent from any class meetings, except for these University-approved absences including but not limited to:

- Disability
- Religious observance, as required by law
- Significant health condition and/or personal/family emergency

Course coordinators may work with students to meet attendance needs that do not fall within University approved absences and determine their own approach to missed classes and make-up assessments and assignments.

The University's policy regarding University-approved absences as well as the course-level policies are communicated to students via the course syllabus on the first day of class.

Students are encouraged to communicate with their course coordinators early about potential absences and are reminded that they are bound by the Honor Code when making a request for a University approved absence.

Repeating or Retaking Courses

If a graduate student retakes a course, both grades will be included in the student's cumulative GPAs. There are no grade replacements for graduate students.

Academic Probation and Dismissal

In accordance with Title IV regulations, a student attending University of Health Sciences and Pharmacy in St. Louis is required to remain in good academic standing and maintain satisfactory academic

progress. Students are urged to read the following information carefully to be sure they know which policies pertain to them.

Graduate Program Warning Policy

A student earning a semester graduate GPA of less than 3.0 but maintaining a cumulative graduate GPA of 3.0 or better will receive a letter of warning. Similarly, students receiving an “I” or “UP” grade will receive a letter of warning that clearly states expectations and timeline to arrive at satisfactory performance.

Graduate Program Probation Policy

A student who is not in good academic standing will be placed on academic probation for the following reasons:

- Student fails to comply with the expectations in their warning letter
- Student earns a cumulative graduate program GPA less than 3.00

Academic probation requires that a student’s semester and cumulative graduate GPAs at the end of the probation period (one semester) is equal to or greater than 3.00.

Graduate Program Dismissal Policy

A student will be subject to academic dismissal from the University for the following reasons:

- Student fails to meet probation requirements (if on probation from the previous semester).
- Student earns a failing grade (F) in a graduate course.
- Student fails to receive a grade of B- or higher in at least 6 credit hours during the graduate program.

The procedures for appealing an academic dismissal are outlined in the Student Code.

Requirements for Graduation

Although qualification for the master’s degree is not based exclusively upon the completion of a definite number of hours of course work, the satisfactorily completed graduate work must consist of the equivalent of a minimum of one academic year of full-time graduate study consisting of at least 30 graduate semester credit hours, including any thesis or research project.

Students must: (1) complete academic requirements and (2) complete the official Application to Graduate by the deadline for the semester in which they expect to graduate. The finalization and submission of a student’s Application to Graduate will activate the process by which the student will be certified for graduation, and the following requirements must be met. The student should confer with their program director one to two weeks after the application period has ended to assure that any problems related to these requirements are resolved in a timely manner and avoid delay of graduation until a subsequent semester. Specifically, the student’s records will be reviewed to verify satisfaction of the following requirements:

- finalization and submission of their Graduation Application by the deadline
- instructor's submission of passing grades for their final semester credits
- removal of all I grades from their transcript
- removal of all UP/SP grades from unapproved courses and/or the final semester in the approved courses were taken
- assignment of letter grades rather than UP/SP grades for courses in the final semester of the student's program
- confirmation of satisfactory repetition or waiver of required courses in which an F was originally received;
- confirmation that the student was registered for at least one credit in their graduate program in each academic year, including the year of expected graduation unless a leave of absence was approved
- confirmation that the student completed degree requirements within the prescribed time-to-degree
- satisfactory completion of at least 30 graduate credits completed to the satisfaction of the student's program
- a cumulative graduate GPA 3.0

ACADEMIC PROGRAMS

COLLEGE OF ARTS AND SCIENCES AND COLLEGE OF GLOBAL POPULATION HEALTH

Bachelor's Degrees

Throughout the academic program, advising services and career support and information are available to help students select which bachelor's degree to pursue that is consistent with their interests, skills and career aspirations.

The following policies pertain to declaring and completing a bachelor's degree program at University of Health Sciences and Pharmacy in St. Louis:

- Students will declare their interest in one of the available bachelor's degree programs on the application to the University.
- By the end of the spring semester of the sophomore year, students will formally declare the bachelor's degree program they want to complete. Students who transfer directly into the junior year must formally declare upon admission to the bachelor's degree program they want to complete.
- Students may earn only one bachelor's degree at the University. Students may switch academic programs if desired but should understand that this may lengthen the time required to complete an undergraduate degree. Students who opt to switch academic programs must have a written plan in place that is approved by their academic advisor. The plan must articulate how the student will successfully complete all degree requirements.
- Students transferring into the undergraduate program must complete 48 credit hours at the University and complete all requirements of the bachelor's program to earn an undergraduate degree from the University.
- A Bachelor of Arts (B.A.) from UHSP will contain area-specific courses at the 300-level or above that provide opportunities for a broad study of the scholarship and methods in the field(s) as an emphasis or to support exploration within the discipline. The general education requirements are identical in both B.A. and B.S. programs.
- A Bachelor of Science (B.S.) from UHSP will contain area-specific courses at the 300-level or above that allow for pursuit of experiential courses or research within the discipline. The general education requirements are identical in both B.A. and B.S. programs.
- A student may be awarded a minor from the College of Arts and Sciences or the College of Global Population Health along with completion of a bachelor's degree. Minors allow students to explore topics of interest more deeply to compliment the student's major.

Majors

Applied Behavioral Sciences (B.S.) (College of Arts and Sciences)

The Bachelor of Arts (B.A.) in Applied Behavioral Sciences is designed for undergraduates who are interested in taking a multidisciplinary approach to studying human behavior and complex social issues and who desire to use that knowledge to develop solutions for real-world problems.

Graduates of this program will be qualified to apply for admission to graduate programs in the psychological and social sciences. Students who plan to enter the workforce and forgo an advanced degree will be qualified to work in a wide variety of fields, including education, public health, market research, human resources, youth services, criminal justice, and urban planning.

This degree program provides students with a foundational background in multiple behavioral sciences, including psychology, sociology, and health care communication. Coursework explores human behaviors and decision-making processes, as well as the relationship between individuals and the broader society. Required classes in statistics and research methods prepare students to empirically examine human behaviors while electives help students develop critical thinking, problem-solving, and communication skills.

The following courses are required in the major:

- COMM 3310 Communication for Health Behavior Change (3 Cr.)
- PSYC 2210 Principles of Psychology (3 Cr.)
- PSYC 2220 Developmental Psychology Through the Lifespan (3 Cr.)
- PSYC 3310 Personality Theory and Case Studies (3 Cr.)
- PSYC 3320 Social Psychology (3 Cr.)
- PSYC 3300 Case Studies in Abnormal Psychology (3 Cr.)
- *Biopsychology (3 Cr.)
- SOCI 2210 Principles of Sociology (3 Cr.)
- SOCI 3310 Chronic Illness, Dying, and Death (3 Cr.)
- SOCI 3320 Health, Biomedicine and Society (3 Cr.)
- SOCI 3340 Drugs and Society (3 Cr.)
- SOCI 3350 Social Science Research Methods (3 Cr.)
- *Behavioral Science Capstone (6 Cr.)

The following courses are required outside the major:

- BIOL 1111 Introductory Biology I (4 Cr.) or BIOL 1100 Modern Biology (4 Cr.)
- MATH 1105 Introduction to Statistics (3 Cr.)
- PHIL 1100 Introduction to Ethics (3 Cr.)
- Science Elective (3-4 Cr.)*
- SEMR 1105 Foundations of Learning (1 Cr.)

*course code to be determined

Biochemistry (B.A.) (College of Arts and Sciences)

The B.A. in Biochemistry program is designed for undergraduates who desire to understand how chemistry and biology can work together to improve health outcomes. This degree offers a large amount of flexibility with ample room for numerous electives. Graduates of this program will be

qualified to apply for admission to graduate programs in the sciences or colleges/schools in the medical field. Graduates who wish to enter the workforce rather than move on to more advanced degrees will be qualified to work as laboratory assistants/technicians, or work in other fields that require training in the chemical sciences.

This program provides a foundational background in chemistry, the biological sciences, physics, and mathematics as well as a broad general education in the liberal arts and social sciences. Advanced courses in the degree include courses in biochemistry, molecular biology, physical and analytical chemistry. The combined curriculum also allows for research opportunities for students to develop their skills beyond their coursework experiences.

The following courses are required in the major:

- BIOL 1111 Introductory Biology I (4 Cr.)
- BIOL 1112 Introductory Biology II (4 Cr.)
- BIOL 2250 Genetics (3 Cr.)
- BIOL 4355 Molecular Biology and Genetics (3 Cr.)
- BIOL 4356L Molecular Biology and Genetics Lab (1 Cr.)
- CHEM 1105 General Chemistry I (4 Cr.)
- CHEM 1106 General Chemistry II (4 Cr.)
- CHEM 1231 Organic Chemistry I (4 Cr.)
- CHEM 1232 Organic Chemistry II (4 Cr.)
- CHEM 3321 Biochemistry (3 Cr.)
- CHEM 3322L Biochemistry Lab (1 Cr.)
- CHEM 3323 Biochemistry II (3 Cr.)
- CHEM 3370 Analytical Chemistry and Instrumental Analysis (3 Cr.)
- CHEM 3371 L Analytical Chemistry and Instrumental Analysis (1 Cr.)
- CHEM 3375 Physical Chemistry (3 Cr.)
- CHEM 3376 L Physical Chemistry (1 Cr.)
- CHEM 3323 Biochemistry II (3 Cr.)
- Advanced Biology Selective or Advanced Chemistry Selectives (6 Cr.)

The following courses are required outside the major:

- MATH 1110 Applied Calculus for Health Professionals (3 Cr.)
- MATH 1120 Statistics for the Health Sciences (3 Cr.)
- MATH 1211 Applied Calculus II (3 Cr.)
- PHYS 3211 Physics I (4 Cr.)
- PHYS 3212 Physics II (4 Cr.)
- SEMR 1105 Foundations of Learning (1 Cr.)

Biomedical Sciences (B.S.) (College of Arts and Sciences)

The Bachelor of Science (B.S.) in Biomedical Sciences program is the study of applied biology related to health and disease and will prepare students for pre-professional and clinical science careers. Graduates of this program will be qualified to apply for admission to graduate programs in the sciences or colleges or universities in the medical field. Graduates who wish to enter the workforce rather than move on to a more advanced degree will be qualified to work as laboratory assistants and technicians, or work in other fields that require training in the sciences.

A degree in biomedical sciences includes intensive study of the biological and physical sciences and how they relate to the health field. This program provides the foundational knowledge and skills for health care scientists and professionals to understand the biology associated with homeostasis of the human body, and how exogenous molecules can exert a physiological effect. The program provides students a curriculum in biology, chemistry, mathematics and physics and gives them the ability to also pursue specific courses in areas that are required and suggested for given career tracks. This combination of core and elective courses will enhance student acquisition of key skills in the biological and chemical sciences while reinforcing critical thinking and problem-solving skills as applied to biomedical research and sciences.

The following courses are required in the major:

- BIOL 1111 Introductory Biology I (4 Cr.)
- BIOL 1112 Introductory Biology II (4 Cr.)
- BIOL 2220 Human Anatomy (4 Cr.)
- BIOL 2231 Human Physiology (4 Cr.)
- BIOL 2250 Genetics (3 Cr.)
- BIOL 3240 Microbiology (4 Cr.)
- BIOL 3310 Cell Biology (3 Cr.)
- BIOL 4310 Biology Seminar (1 Cr.)
- BIOL 4355 Molecular Biology and Genetics (3 Cr.)
- BIOL 4356L Molecular Biology and Genetics Lab (1 Cr.)
- Advanced Biology Selectives (15 Cr.)

The following courses are required outside the major:

- CHEM 1105 General Chemistry I (4 Cr.)
- CHEM 1106 General Chemistry II (4 Cr.)
- CHEM 1231 Organic Chemistry I (4 Cr.)
- CHEM 1232 Organic Chemistry II (4 Cr.)
- CHEM 3321 Biochemistry (3 Cr.)
- CHEM 3322L Biochemistry Lab (1 Cr.)
- MATH 1110 Applied Calculus for Health Professionals (3 Cr.)
- MATH 1120 Statistics for the Health Sciences (3 Cr.)
- PHYS 3211 Physics I (4 Cr.)
- PHYS 3212 Physics II (4 Cr.)
- PSYC 2210 Principles of Psychology (3 Cr.)
- SEMR 1105 Foundations of Learning (1 Cr.)
- SOCI 2210 Principles of Sociology (3 Cr.)

Students who choose to seek entry into the Doctor of Pharmacy program after completion of this degree will need to take ECON 3200 Microeconomics with a Health Care Emphasis (3 Cr.) as part of their electives to meet pharmacy prerequisites for entry.

Biopsychology (B.A.) (College of Arts and Sciences)

The Bachelor of Arts (B.A.) in Biopsychology is designed for undergraduates who are interested in both the biological and social sciences, particularly psychology and related behavioral sciences.

Graduates of this program will be qualified to apply for admission to post-graduate education programs in a variety of science and social science fields, as well as a broad range of careers, including but not limited to behavioral health, social work, counseling, genetic counseling, cognitive sciences, substance abuse prevention and treatment, and neuroscience.

This degree program provides students with a broad foundation in biology and chemistry, while also providing students with a strong foundational training in psychology and social sciences. The flexibility and breadth of this degree allows students to complete all required pre-professional courses for pharmacy, medicine, optometry, dentistry, or physician assistant schools.

The following courses are required in the major:

- BIOL 1111 Introductory Biology I (4 Cr.)
- BIOL 1112 Introductory Biology II (4 Cr.)
- BIOL 2220 Human Anatomy (4 Cr.) and BIOL 2231 Human Physiology (4 Cr.)
- **OR**
- BIOL 1221 Human Anatomy and Physiology I (4 Cr.) and BIOL 2232 Human Anatomy and Physiology II (4 Cr.)
- BIOL 2250 Genetics (3 Cr.)
- PSYC 2210 Principles of Psychology (3 Cr.)
- PSYC 2220 Developmental Psychology Through the Lifespan (3 Cr.)
- PSYC 3300 Case Studies in Abnormal Psychology (3 Cr.)
- *Biopsychology (3 Cr.)
- *Biopsychology Capstone Project (3 Cr.)
- SOCI 2210 Principles of Sociology (3 Cr.)
- SOCI 3350 Social Science Research Methods (3 Cr.)
- Advanced Psychology Elective (3 Cr.)
- Advanced Social Science Electives (6 Cr.)
- Biology Elective (3 Cr.)

The following courses are required outside the major:

- CHEM 1105 General Chemistry I (4 Cr.)
- CHEM 1106 General Chemistry II (4 Cr.)

- HIST 3303 Global Heritage III: The Modern World (3 Cr.)
- MATH 1105 Introduction to Statistics (3 Cr.) **OR** MATH 1120 Statistics for the Health Sciences (3 Cr.)
- MATH 1100 Precalculus (3 Cr.)
- SEMR 1105 Foundations of Learning (1 Cr.)

*course code to be determined

Computer Science (B.S.) (College of Arts and Sciences)

The Bachelor of Science (B.S.) in Computer Science is designed to provide students with the necessary background in computer science and programming principles to be successful as a software developer, web developer or technical product manager. Coursework focuses on practical computing and project-based learning that helps students build a portfolio that showcases their skills and abilities. This program provides students with working knowledge of web development, application development, data structures, and algorithms. Students also build industry relevant skills such as Python programming, cloud application building, product development and interfacing with web frameworks.

The following courses are required in the major:

- COMP 1100 Internet History, Technology, and Security (3 Cr.)
- COMP 1101 Programming for Everyone I (3 Cr.)
- COMP 1102 Programming for Everyone II (3 Cr.)
- COMP 1200 Web Development (3 Cr.)
- COMP 2301 Application Development I (3 Cr.)
- *Application Development II (3 Cr.)
- *Introduction to C – How Computers Really Work (3 Cr.)
- *Hardware I – Inside a Microprocessor (3 Cr.)
- *Data Structures (3 Cr.)
- *Algorithms (3 Cr.)
- *Product Development (3 Cr.)
- *Capstone Project-Product Launch (3 Cr.)

The following courses are required outside the major:

- COMM 3300 Organizational Communication Behavior (3 Cr.)
- MATH 1110 Applied Calculus for Health Professionals (3 Cr.)
- MATH 1120 Statistics for the Health Sciences (3 Cr.)
- MATH 2200 Probability & Advanced Statistics (3 Cr.)
- PSYC 2210 Principles of Psychology (3 Cr.)
- SEMR 1105 Foundations of Learning (1 Cr.)
- SOCI 2210 Principles of Sociology (3 Cr.)

*course code to be determined

Data Science (B.S.) (College of Global Population Health)

The Bachelor of Science (B.S.) in Data Science is designed to provide students with an opportunity to develop skills in computer science, statistics and a specialty in a content area. The skills in computer science and statistics will be broadly applicable to future careers in data science. The content area specialization allows students to deepen their understanding in applying data science skills within a specific discipline. Students may choose an emphasis (content specialization) in behavioral science, bioinformatics or cheminformatics. Alternatively working with the data science faculty advisor, the student may develop another area of specialization based on coursework available at UHSP.

The following courses are required in the major:

- DATA 1101 Foundations of Data Analytics I (3 Cr.)
- DATA 1102 Foundations of Data Analytics II (3 Cr.)
- DATA 3301 Principles and Techniques of Data Analytics I (3 Cr.)
- DATA 3302 Principles and Techniques of Data Analytics II (3 Cr.)
- *Data Visualization Practicum (3 Cr.)
- *Data Science Capstone (3 Cr.)

The following courses are required outside the major:

- COMP 1100 Internet History, Technology, and Security (3 Cr.)
- COMP 1101 Programming for Everyone I (3 Cr.)
- COMP 1102 Programming for Everyone II (3 Cr.)
- *Data Structures (3 Cr.)
- MATH 1110 Applied Calculus for Health Professionals (3 Cr.)
- MATH 1120 Statistics for the Health Sciences (3 Cr.)
- MATH 2200 Probability & Advanced Statistics (3 Cr.)
- SEMR 1105 Foundations of Learning (1 Cr.)

*course code to be determined

Exercise Physiology (B.S.) (College of Arts and Sciences)

A Bachelor of Science (B.S.) in Exercise Science is one that combines our current strength in anatomy, physiology, from the basic sciences, with new courses in the exercise sciences. This type of program would be attractive to students who need sufficient coursework from biology to prepare them to assess aspects of the human body, but who do not need a full chemistry sequence that is a part of science majors. This type of program may be of interest to students who are interested in basic science training in a health-field-based program who are interested sport and wellness programs, a variety of professional setting such as sport and wellness programs, community recreational agencies, hospitals and clinics, and both private and corporate agencies. This major could prepare students who wish to further pursue advanced education in athletic training, exercise physiology, personal training, wellness

coaching, athletic coaching, athletic management, or massage therapy. It may also serve as a pre-professional program for students interested in pursuing a career in physical therapy, sports medicine, or as a physician assistant.

The following courses are required in the major:

- BIOL 1101 Medical Terminology (3 Cr.)
- BIOL 2260 Nutrition (3 Cr.)
- BIOL 3390 Exercise Physiology w/lab (3 Cr.)
- EXSC 2200 Care and Prevention of Injuries (3 Cr.)
- *Introduction to Exercise Science (3 Cr.)
- *Advanced Exercise Physiology (4 Cr.)
- *Motor Learning and Control (3 Cr.)
- *Adapted Physical Activity (3 Cr.)
- *Sports Psychology (3 Cr.)
- *Biomechanics (3 Cr.)
- *Exercise Testing and Prescription (4 Cr.)
- *Principles of Human Performance (3 Cr.)
- *Capstone/Seminar/Internships (6 Cr.)

The following courses are required outside the major:

- BIOL 1100 Modern Biology (4 Cr.)
- BIOL 1221 Human Anatomy 1 (4 Cr.)
- BIOL 2232 Human Anatomy 2 (4 Cr.)
- CHEM 1100 Chemistry and Society (4 Cr.)
- MATH 1120 Statistics for the Health Sciences (3 Cr.)
- PSYC 2210 Principles of Psychology (3 Cr.)
- PSYC 2220 Developmental Psychology through the Lifespan (3 Cr.)
- *Physics in Motion (4 Cr.)
- SEMR 1105 Foundations of Learning (1 Cr.)

*course code to be determined

Health Care Administration and Management (B.S.) (College of Global Population Health)

The Bachelor of Science in Healthcare Administration and Management was designed to provide students with the skills they need to succeed within the modern health care workforce. The curriculum was developed with three major priorities: (i) Project-Based Learning, (ii) Data-Driven Skill Set and an (iii) Operational Focus. Students will complete a strategy capstone that asks them to synthesize their knowledge and skills to plan a strategic transformation of a simulated healthcare system (a hospital network, for example).

Students earning this degree can pursue careers including Hospital Administrator, Health Services Manager, Nursing Home Manager or Health Administrator. Students who wish to pursue more senior

roles in these areas can go on to complete a Masters of Health Leadership or an MBA in Health Administration after obtaining some work experience.

The following courses are required in the major:

- *Accounting (3 Cr.)
- *Business Law (3 Cr.)
- COMM 3300 Intercultural Communication (3 Cr.)
- COMM 3330 Organizational Communication (3 Cr.)
- ECON 3200 Microeconomics with a Healthcare Emphasis (3 Cr.)
- HCAM 2200 Health Systems of the United States (3 Cr.)
- *Health Law and Ethics (3 Cr.)
- *Health Data and Analytics (3 Cr.)
- *Healthcare Finance (3 Cr.)
- *Healthcare Service Operations (3 Cr.)
- *Healthcare Strategy Capstone (3 Cr.)

The following courses are required outside the major:

- COMM 1100 Fundamental of Public Speaking (3 Cr.) **OR** COMM 3200 Healthcare Communication (3 Cr.)
- GLBH 1100 Introduction to Global Health (3 Cr.) **OR** GLBH 1110 History of Public Health (3 Cr.)
- MATH 1105 Introduction to Statistics (3 Cr.) **OR** MATH 1120 Statistics for the Health Sciences (3 Cr.)
- PHIL 1100 Introduction to Ethics (3 Cr.)
- PSYC 2210 Principles of Psychology (3 Cr.)
- PSYC 3320 Social Psychology (3 Cr.)
- SEMR 1105 Foundations of Learning (1 Cr.)
- SOCI 2210 Principles of Sociology (3 Cr.)

*course code to be determined

Interdisciplinary Sciences (B.S.) (College of Arts and Sciences)

The Bachelor of Science (B.S.) in Interdisciplinary Sciences program allows students to pursue a course of study in any of the University's science offerings to develop a more personalized major related to health and disease. Students have the flexibility to choose elective coursework that will allow for further study or employment in science related careers. Graduates of this program will be qualified to apply for admission to graduate programs in the sciences or colleges or schools in the medical field. Graduates who wish to enter the workforce rather than move on to a more advanced degree will be qualified to work as laboratory assistants and technicians, or work in other fields that require training in the sciences.

The program provides students a curriculum in biology, chemistry, mathematics and physics and gives them the ability to also pursue specific courses in areas that are required and suggested for given career

tracks. This combination of core and elective courses will enhance student acquisition of key skills in the biological and physical sciences while reinforcing critical thinking and problem-solving skills.

The following courses are required in the major:

- BIOL 1111 Introductory Biology I (4 Cr.)
- BIOL 1112 Introductory Biology II (4 Cr.)
- BIOL 2220 Human Anatomy (4 Cr.)
- BIOL 2231 Human Physiology (4 Cr.)
- BIOL 3240 Microbiology (4 Cr.)
- CHEM 1105 General Chemistry I (4 Cr.)
- CHEM 1106 General Chemistry II (4 Cr.)
- CHEM 1231 Organic Chemistry I (4 Cr.)
- CHEM 1232 Organic Chemistry II (4 Cr.)
- CHEM 3321 Biochemistry (3 Cr.)
- CHEM 3322L Biochemistry Lab (1 Cr.)
- PHYS 3211 Physics I and PHYS 3212 Physics II (8 Cr.) **OR** PHYS 3200 Principles of Physics (4 Cr.)
- Advanced Science Electives (20 Cr.)

The following courses are required outside the major:

- MATH 1110 Applied Calculus for Health Professionals (3 Cr.)
- MATH 1120 Statistics for the Health Sciences (3 Cr.)
- SEMR 1105 Foundations of Learning (1 Cr.)

Medical Humanities (B.A.) (College of Arts and Sciences)

The Bachelor of Arts (B.A.) in Medical Humanities program allows students to pursue a course of study in any of the University's humanities offerings to develop a more personalized major related to social aspects of health and disease. Students have the flexibility to choose elective coursework that will allow for further study or employment in a wide variety of careers. Graduates of this program will be qualified to apply for admission to graduate programs in the humanities or social science related professional programs. Graduates who wish to enter the workforce rather than move on to a more advanced degree will have developed critical thinking, problem-solving and communication skills, all of which are the gateway to many careers in health care, public health, education, business, social work and other fields. The program provides students a curriculum based in the social sciences and provides them the ability to also pursue specific courses in areas that are required and suggested for a variety of career tracks or personal exploration.

The following courses are required in the major:

- HIST 2201 Global Heritage I: The Ancient World (3 Cr.)
- HIST 2202 Global Heritage II: The Medieval and Early Modern World (3 Cr.)
- HIST 3303 Global Heritage III: The Modern World (3 Cr.)
- Literature Selective (3 Cr.)
- PSYC 2210 Principles of Psychology (3 Cr.)

- SEMR 1105 Foundations of Learning (1 Cr.)
- SOCI 2210 Principles of Sociology (3 Cr.)
- Advanced Humanities Electives (21 Cr., 3 Cr. of which must be writing intensive WI)

Neuroscience (B.S.) (College of Arts and Sciences)

A Bachelor of Science (B.S.) in Neuroscience provides students with an incredibly broad range of career options. It is, first and foremost, an ideal course of study for students who wish to pursue graduate studies in neuroscience itself, as well as those who wish to enter medical school — especially with an eye towards psychiatric care. Similarly, it provides a firm grounding for students who wish to move into counseling, therapy, addiction work or social work.

Even without further study, students with this degree are well suited to take on roles as laboratory technicians, law enforcement professionals, health educators, and technical writers.

The following courses are required in the major:

- BIOL 1111 Introductory Biology I (4 Cr.)
- BIOL 1112 Introductory Biology II (4 Cr.)
- BIOL 2220 Human Anatomy (4 Cr.)
- BIOL 2231 Human Physiology (4 Cr.)
- BIOL 2250 Genetics (3 Cr.)
- BIOL 3310 Cell Biology (3 Cr.)
- BIOL 3360 Pathophysiology (3 Cr.)
- CHEM 1105 General Chemistry I (4 Cr.)
- CHEM 1106 General Chemistry II (4 Cr.)
- CHEM 1231 Organic Chemistry I (4 Cr.)
- CHEM 1232 Organic Chemistry II (4 Cr.)
- CHEM 3321 Biochemistry (3 Cr.)
- CHEM 3322L Biochemistry Lab (1 Cr.)
- PSYC 2210 Principles of Psychology (3 Cr.)
- PSYC 3300 Case Studies in Abnormal Psychology (3 Cr.)
- SOCI 2210 Principles of Sociology (3 Cr.)
- SOCI 3350 Social Science Research Methods (3 Cr.)

The following courses are required outside the major:

- MATH 1110 Applied Calculus for Health Professionals (3 Cr.)
- MATH 1120 Statistics for the Health Sciences (3 Cr.)
- SEMR 1105 Foundations of Learning (1 Cr.)

Pharmaceutical Chemistry (B.S.) (College of Arts and Sciences)

The Bachelor of Science (B.S.) in Pharmaceutical Chemistry program is designed for undergraduates who desire to understand how chemistry and biology can work together to improve health outcomes. Graduates of this program will be qualified to apply for admission to graduate programs in the sciences or colleges and schools in the medical field. Graduates who wish to enter the workforce rather than move on to a more advanced degree will be qualified to work as laboratory assistants and technicians or in other fields that require training in the chemical sciences.

This program provides a foundational background in chemistry, the biological sciences, physics and mathematics as well as a broad general education in the liberal arts and social sciences. Advanced courses in the degree include pharmaceutical chemistry, biochemistry, cheminformatics and programming, chemical analysis, drug design, synthetic chemistry and biotechnology. The combined curriculum culminates in individual research opportunities for students to develop their skills beyond their coursework experiences.

The following courses are required in the major:

- CHEM 1105 General Chemistry I (4 Cr.)
- CHEM 1106 General Chemistry II (4 Cr.)
- CHEM 1231 Organic Chemistry I (4 Cr.)
- CHEM 1232 Organic Chemistry II (4 Cr.)
- CHEM 3321 Biochemistry (3 Cr.)
- CHEM 3322L Biochemistry Lab (1 Cr.)
- CHEM 3370 Analytical Chemistry and Instrumental Analysis (3 Cr.)
- CHEM 3371 L Analytical Chemistry and Instrumental Analysis (1 Cr.)
- CHEM 3375 Physical Chemistry (3 Cr.)
- CHEM 3376 L Physical Chemistry (1 Cr.)
- CHEM 4471 Medicinal Chemistry I (3 Cr.)
- CHEM 4472 Medicinal Chemistry II (3 Cr.)
- CHEM 4473 Pharmaceutical Chemistry Seminar (1 Cr.)
- CHEM 4482 Project Based Chemistry Lab (3 Cr.)
- Advanced Chemistry Selectives (6 Cr.)

The following courses are required outside the major:

- BIOL 1111 Introductory Biology I (4 Cr.)
- BIOL 1112 Introductory Biology II (4 Cr.)
- MATH 1110 Applied Calculus for Health Professionals (3 Cr.)
- MATH 1120 Statistics for the Health Sciences (3 Cr.)
- MATH 1211 Applied Calculus II (3 Cr.)
- PHYS 3211 Physics I (4 Cr.)
- PHYS 3212 Physics II (4 Cr.)
- SEMR 1105 Foundations of Learning (1 Cr.)

Pharmaceutical Sciences (B.S.) (College of Arts and Sciences)

The Bachelor of Science (B.S.) in Pharmaceutical Sciences is designed for students to gain a strong foundation in the basic sciences and liberal arts and prepare for careers in pharmacy or other health care professions. Students who select a major in pharmaceutical sciences will gain a background in chemistry, mathematics and biological sciences.

Coursework in these fields is required to seek admission to graduate programs in the sciences and health care and professional programs in pharmacy, dentistry, optometry, veterinary medicine, podiatry and more.

The degree allows students to pursue an integrated Doctor of Pharmacy (Pharm.D.) and Bachelor of Science in Pharmaceutical Sciences degree. Other majors at the University can prepare you to enter the pharmacy program, but only this major is integrated as a seven-year curriculum. The Doctor of Pharmacy (Pharm.D.) with an integrated Pharmaceutical Sciences (B.S.) curriculum consists of an undergraduate program followed by a four-year professional program. Coursework for the first professional year overlaps with coursework required in the senior year of the integrated pharmaceutical sciences program so that students may earn a bachelor's degree while completing the first professional year of the Pharm.D. program.

The following courses are required in the major:

- BIOL 1111 Introductory Biology I (4 Cr.)
- BIOL 1112 Introductory Biology II (4 Cr.)
- BIOL 2220 Human Anatomy (4 Cr.)
- BIOL 2231 Human Physiology (4 Cr.)
- BIOL 3240 Microbiology (4 Cr.)
- BIOL 4100/4360 Principles of Immunology (2 Cr.)
- BIOL 4101/4432 Medical Physiology (3 Cr.)
- BIOL 4201/4355 Principles of Molecular Biology and Genetics (3 Cr.)
- CHEM 1105 General Chemistry I (4 Cr.)
- CHEM 1106 General Chemistry II (4 Cr.)
- CHEM 1231 Organic Chemistry I (4 Cr.)
- CHEM 1232 Organic Chemistry II (4 Cr.)
- CHEM 3321 Biochemistry (3 Cr.)
- CHEM 3322L Biochemistry Lab (1 Cr.)
- MGMT 4100/4400 Public Health Fundamentals in Pharmacy (3 Cr.)
- PHIM 4110/4300 Information Mastery I: Evidence-Based Medicine and Informatics (2 Cr.)
- PHRC 4101/4300 Pharmacy Calculations (1 Cr.)
- PHRC 4123/4403 Pharmaceuticals (4 Cr.)
- PHSC 4101/4400 Principles of Drug Action (4 Cr.)

The following courses are required outside the major:

- COMM 3200 Health Care Communication (3 Cr.) **OR** COMM 1100 Public Speaking (3 Cr.)
- ECON 3200 Microeconomics with Health Care Emphasis (3 Cr.)
- HIST 3303 Global Heritage III: The Modern World (3 Cr.)
- MATH 1110 Applied Calculus for Health Professionals (3 Cr.)
- MATH 1120 Statistics for the Health Sciences (3 Cr.)

- PHYS 3211 Physics I and PHYS 3212 Physics II (8 Cr.) **OR** PHYS 3200 Principles of Physics (4 Cr.)
- PSYC 2210 Principles of Psychology (3 Cr.)
- SEMR 1105 Foundations of Learning (1 Cr.)
- SOCI 2210 Principles of Sociology (3 Cr.)
- WRIT 1101 The Effective Writer (3 Cr.)
- WRIT 1102 The Writer as Advocate (3 Cr.)

Minors

A minor in the College of Arts and Sciences will have between 15 and 24 credit hours with 6 credits or more at the 300-level or above. You must earn a minimum 2.0 GPA in all courses required for the minor.

Minors must be completed simultaneously with an undergraduate major degree program. A minor may not be completed by itself, independent of a major program. This means you cannot earn a minor after you have already earned your bachelor's degree. You need at least one active major in order to pursue a minor.

Also be aware that since the minor must be completed with a major, any outstanding minor requirements will prevent the awarding of the degree for your major. If you ultimately decide to graduate without the minor, the minor must be removed from your records before your degree can be processed.

A minor must be awarded at the same time a bachelor's degree is awarded and will be posted on your transcript.

Chemistry

Chemistry, often described as the central science, is critical to the intersection of the physical sciences with life sciences and health sciences. Chemists describe the macroscopic world through molecular structure and interaction. A chemistry minor presents an opportunity to explore the fundamental properties of atoms and molecules through the laws of physics that govern particles, and how these building blocks can affect cellular mechanisms that can result in improved health outcomes. A chemistry minor is a perfect fit for students who wish to pursue a pre-health profession curricula or for students considering careers where a complete chemistry major is not required but significant college chemistry coursework is beneficial.

The chemistry minor may not be awarded with a pharmaceutical chemistry degree.

The following courses are required in the minor (22 Cr.):

- CHEM 1105 General Chemistry I (4 Cr.)
- CHEM 1106 General Chemistry II (4 Cr.)
- CHEM 1231 Organic Chemistry I (4 Cr.)
- CHEM 1232 Organic Chemistry II (4 Cr.)
- 6 hours of the following Advanced Chemistry Coursework:
 - BPHS 3310 Biotechnology and Chemical Biology (3 Cr.)
 - CHEM 3321 Biochemistry I (3 Cr.)

- CHEM 3323 Biochemistry II (3 Cr.)
- CHEM 3330 Topics in Synthetic in Organic Chemistry (3 Cr.)
- CHEM 3331 Spectroscopic Identification of Organic Compounds (3 Credits)
- CHEM 3350 Internet of Things (3 Cr.)
- CHEM 3351 Cheminformatics (3 Cr.)
- CHEM 3370 Analytical Chemistry (3 Cr.)
- CHEM 3375 Physical Chemistry (3 Cr.)

*course code to be determined

Computer Science

A computer science minor is a perfect addition to any major that allows you to link your health-related degree to technology. You will learn basics of computer programming using the Python language, which is the most popular and broadly applicable programming language today. Whether you want to learn aspects of web or application development, or delve deeper into how a computer works, this minor provides you with the knowledge required to work at a technology-based company or solve problems computationally in your discipline.

The computer science minor may not be awarded with a computer science degree.

The following courses are required in the minor (18 Cr.):

- COMP 1101 Programming for Everyone I (3 Cr.)
- COMP 1102 Programming for Everyone II (3 Cr.)
- * Data Structures (3 Cr.)
- 9 hours of the following:
 - COMP 1200 Web Development (3 Cr.)
 - COMP 2301 Application Development I (3 Cr.)
 - *Application Development II (3 Cr.)
 - *Introduction to C – How Computers Really Work (3 Cr.)
 - *Inside a Microprocessor (3 Cr.)
 - *Algorithms (3 Cr.)

*course code to be determined

Data Science

Data science is the confluence of mathematical reasoning, programming skills and content expertise. Whatever your major, a data science minor focuses on the technical skills to apply your content knowledge to solving real problems using large scale data sets. Over the six required courses you will learn the fundamentals of computer programming and data analytics, gain an ability to design quantitative experiments, use critical thinking to ask questions of large data sets, solve computational and real world problems use machine learning algorithms, assess the importance of checking for bias in

data-driven decision-making, and develop data visualizations that are clear and valuable to both technical and non-technical stakeholders.

The Data Science minor may not be awarded with a Data Science degree.

The following courses are required in the minor (18 Cr.):

- COMP 1101 Programming for Everyone I (3 Cr.)
- COMP 1102 Programming for Everyone II (3 Cr.)
- DATA 1101 Foundations of Data Analytics I (3 Cr.)
- DATA 1102 Foundations of Data Analytics II (3 Cr.)
- DATA 3301 Principles and Techniques of Data Analytics I (3 Cr.)
- DATA 3302 Principles and Techniques of Data Analytics II (3 Cr.)

Global Health

Global health is the study of promoting well-being among the world's people. This interdisciplinary minor draws upon the medical fields of history, literature, and the social and behavioral sciences to provide you with the reading, writing, thinking and analytical skills to think broadly about the health challenges the world's people face. Through actively participating in your choice of relevant courses, you will gain an understanding of the complex global issues that influence health including the social determinants of health, the complex relationship among health and environment, and you will explore the historical, social, and cultural factors that lead to health outcomes around the world. This is a valuable minor to students interested in pursuing careers in health care, journalism, public policy, and public health to name a few. This minor also lends itself to careers in governmental and nongovernmental health agencies.

The following courses will satisfy the minor (15 Cr.):

- COMM 3300 Intercultural Communication (3 Cr.)
- HIST 3320 Global Public Health (3 Cr.)
- HIST 3340 The Global Pharmacist (3 Cr.)
- HIST 3350 Illness, Identity and Inequality in U.S. History (3 Cr.)
- HIST 3360 Good Wives, Witches and Healers: Reclaiming Women's Medicine (3 Cr.)
- LITR 2251 Global Comics: Home, History, Culture, Displacement (3 Cr.)
- LITR 3310 Comics and Conflict (3 Cr.)
- SOCI 3310 Chronic Illness, Death and Dying (3 Cr.)
- SOCI 3320 Health, Biomedicine and Society (3 Cr.)
- SOCI 3340 Drugs and Society (3 Cr.)
- SOCI 3350 Social Science Research Method (3 Cr.)
- *HIV/AIDS and Society

*course code to be determined

Health Care Administration and Management

A health care administration minor provides students with an overview of the skills needed to manage operations within the modern health care workforce. Coursework covers the functions and roles of the U.S. health care system, communication and interpersonal skills to successfully engage stakeholders in health care systems, analysis and exploration of data sets using the R statistical and graphics programming language, and operations and systems management with the context of health care systems.

The health care administration and management minor may not be awarded with a health care administration and management degree.

The following courses are required in the minor (15 Cr.):

- COMM 3200 Health Care Communication (3 Cr.)
- COMM 3330 Organizational Communication (3 Cr.)
- HCAM 2200 Health Systems of the United States (3 Cr.)
- *Health Data and Analytics (3 Cr.)
- *Health Care Service Operations (3 Cr.)

*course code to be determined

Medical History

Medical history is a specialized branch of the history of science that focuses on humanity's eternal quest for health and wellness. This globally focused minor provides you with a greater understanding of the evolution of the medical professions with an emphasis on the development of therapeutic agents and their creators from pre-historic times to the present. This minor will help you sharpen your reading, writing, thinking, and observational skills and will challenge you to look at medicine from a humanistic, patient-centered point of view. In addition, you will gain confidence in the context and history of your chosen profession and how historical events will continue to shape its present and future. The observational, thinking, and analytical skills learned in this minor apply to multiple fields of employment including health care, public health, global health, public policy, health education to name just a few.

The following courses are required in the minor (18 Cr.):

- HIST 2201 Global Heritage I: The Ancient World (3 Cr.)
- HIST 2202 Global Heritage II: The Medieval and Early Modern World (3 Cr.)
- HIST 3303 Global Heritage III: The Modern World (3 Cr.)
- 9 hours of the following:
 - HIST 3300 Art of Autobiography (3 Cr.)
 - HIST 3310 Science and The Supernatural (3 Cr.)
 - HIST 3320 Global Public Health (3 Cr.)
 - HIST 3340 The Global Pharmacist (3 Cr.)
 - HIST 3350 Illness, Identity and Inequality in U.S. History (3 Cr.)

- HIST 3360 Good Wives, Witches and Healers: Reclaiming Women's Medicine (3 Cr.)
- HIST 3370 Global History of Medicine and Pharmacy
- SOCI 3320 Health, Biomedicine and Society (3 Cr.)
- SOCI 3340 Drugs and Society (3 Cr.)
- SOCI 3350 Social Science Research Methods (3 Cr.)
- *HIV/AIDS and Society

*course code to be determined

Mental Health

Mental health is an integral aspect of health. This interdisciplinary minor focuses on improving your critical thinking and professional communication skills to apply content knowledge to better understand real human problems using various media. Through actively participating in your choice of relevant courses you will gain an understanding of complex mental health problems. In addition, you will learn how to critically analyze information, use critical thinking to assess different approaches to addressing mental health problems, identify stigma and bias in healthcare practices, and develop better technical writing skills for a variety of audiences, including health care professionals, patients and their families, and the general public.

The following courses will satisfy the minor (15 Cr.):

- COMM 3300 Intercultural Communication (3 Cr.)
- FILM 3300 Mental Health and Illness in Film (3 Cr.)
- HIST 3350 Illness, Identity and Inequality in U.S. History (3 Cr.)
- LITR 2250 Comics and Mental Illness (3 Cr.)
- LITR 3300 Mental Health and Illness in Literature (3 Cr.)
- MUSI 3310 Music and the Brain (3 Cr.)
- PSYC 2220 Developmental Psychology through the Lifespan (3 Cr.)
- PSYC 3300 Case Studies in Abnormal Psychology (3 Cr.)
- PSYC 3310 Personality Theory and Case Studies (3 Cr.)
- SOCI 3310 Chronic Illness, Death and Dying (3 Cr.)
- SOCI 3320 Health, Biomedicine and Society (3 Cr.)
- SOCI 3340 Drugs and Society (3 Cr.)
- SOCI 3350 Social Science Research Method (3 Cr.)

Physiology

Physiology is what makes you tick. It is a highly integrative discipline combining anatomy, genetics, behavior, and ecology and how each relates to maintaining homeostasis despite signals from external and internal stimuli. A physiology minor is ideal for students wishing to pursue a pre-health profession curricula and/or students interested in careers and graduate degrees where a complete biology major is not required but an understanding of physiology is beneficial or recommended.

The following courses are required in the minor (23 Cr.):

- BIOL 1111 Introductory Biology I (4 Cr.)
- BIOL 1112 Introductory Biology II (4 Cr.)
- BIOL 2220 Human Anatomy (4 Cr.)
- BIOL 2231 Human Physiology (4 Cr.)
- 7 hours of the following (6 Cr. Must be 300-or 400-level):
 - BIOL 2260 Nutrition (3 Cr.)
 - BIOL 3320 Advanced Histology (3 Cr.)
 - BIOL 3330 Extreme Physiology (3 Cr.)
 - BIOL 3350 Aerobic Energy Metabolism (3 Cr.)
 - BIOL 3360 Pathophysiology (3 Cr.)
 - BIOL 3370 Neuroscience (3 Cr.)
 - BIOL 4101/4432 Medical Physiology (3 Cr.)
 - BIOL 4100/4360 Principles of Immunology (2 Cr.) **AND** PGEL 4003/BIOL 4465 Immunology (1 Cr.)

ST. LOUIS COLLEGE OF PHARMACY

Doctor of Pharmacy

In the professional program, students complete 130 hours of required coursework that includes nine semester hours (300 contact hours) of introductory pharmacy practice experiences and 40 semester hours (1,600 contact hours) of advanced pharmacy practice experiences in which students extend their learning from the classroom to various pharmacy practice settings and have opportunities to provide care for diverse patient populations. In addition, 12 semester hours of elective or selective coursework are required.

The Doctor of Pharmacy (Pharm.D.) with an integrated Pharmaceutical Sciences (B.S.) curriculum consists of the undergraduate Bachelor of Science in Pharmaceutical Sciences program followed by a four-year professional program. Coursework for the first professional year overlaps with coursework required in the senior year of the integrated pharmaceutical sciences program so that students may earn a bachelor's degree while completing the first professional year of the Pharm.D. program. The bachelor's degree is earned upon satisfactory completion of all bachelor's degree requirements which typically occurs after four academic years of study.

In the pharmacy program, students take yearly longitudinal introductory pharmacy practice experiences (IPPE) for the first three professional years. Each of these IPPE courses are worth one-credit hour and run over the course of two semesters. Students spend 8 contact hours in class and 20 contact hours in the field for these experiences.

During the summer semesters between the first and second professional year and between the second and third professional year, students take concentrated IPPE courses that consist of 120 contact hours in the field (three weeks in length) and are worth three credit hours.

During the advanced pharmacy practice experiences (APPE) in the final year of the professional program, students spend a minimum of 40 hours per week in assigned, University-approved health

system pharmacy, community pharmacy, clinical pharmacy and other approved practice sites. APPEs are five weeks long and worth five credit hours. Both IPPE and APPE requirements are mandated by the Accreditation Council for Pharmacy Education.

Graduates of the Pharm.D. program have the abilities necessary for entry into post-graduate training programs. Graduates are able to think critically, solve complex problems and communicate effectively to provide high-level, interprofessional patient and population care that is evidence-based, culturally sensitive and includes disease management and promotion of health and wellness. Graduates will also be able to manage medication-use systems to optimize patient safety and system efficacy, advocate for the pharmacy profession and within their communities, apply quality improvement principles to advance the practice of pharmacy including practice models that are economically sustainable, and be consumers of and contributors to research and scholarly works.

The following courses are required in the four-year Doctor of Pharmacy program.

Professional Year 1

- BIOL 4100 Principles of Immunology (2 Cr.)
- BIOL 4101 Medical Physiology (3 Cr.)
- BIOL 4201 Principles of Molecular Biology and Genetics (3 Cr.)
- IPPE 4110 IPPE and IPE: Population Health and Health Care Teams (1 Cr.)*
- MGMT 4100 Public Health Fundamentals in Pharmacy (3 Cr.)
- PHAR 4113 IP: Introduction to the Pharmacists' Patient Care Process (1 Cr.)
- PHAR 4114 IP: Self-Care/Dermatology (3 Cr.)
- PHIM 4110 Information Mastery I: EBM and Informatics (2 Cr.)
- PHPR 4112 Pharmacy Practice Skills Lab I (1 Cr.)
- PHRC 4101 Pharmacy Calculations (1 Cr.)
- PHRC 4123 Pharmaceutics (4 Cr.)
- PHRC 4124 L Pharmaceutics Lab (1 Cr.)
- PHSC 4101 Principles of Drug Action (4 Cr.)
- PHTD 4012 Top Drugs Proficiency I (0 Cr.)

Professional Year 2

- IPPE 5123 IPPE: Community Pharmacy (3 Cr.) (completion during summer before P2)
- PHTD 4013 Top Drugs Proficiency OTC (0 Cr.) (completion during summer before P2)
- IPPE 5130 IPPE and IPE: Patient-Based Care and Health Care Teams (1 Cr.)*
- MGMT 5100 Pharmacy Leadership and Change (3 Cr.)
- MGMT 5200 HSM: Financial and Economic Aspects (4 Cr.)
- PHAR 5121 IP: Cardiology (5 Cr.)
- PHAR 5131 IP: Pulmonology (2 Cr.)
- PHAR 5142 IP: Endocrinology (3 Cr.)
- PHAR 5152 IP: Nephrology (3 Cr.)
- PHIM 5122 Information Mastery II: Biomedical Literature Evaluation (3 Cr.)
- PHPR 5121 Pharmacy Practice Skills Lab II (1 Cr.)
- PHPR 5132 Pharmacy Practice Skills Lab III (1 Cr.)
- PHRC 5131 Biopharmaceutics and Pharmacokinetics (3 Cr.)

- PHTD 5021 Top Drugs Proficiency II (0 Cr.)
- PHTD 5032 Top Drugs Proficiency III (0 Cr.)

Professional Year 3

- CAPS 6000 Integrated Capstone Selective (3 Cr.)
- IPPE 6143 IPPE: Health System Pharmacy (3 Cr.) (completion during summer before P3)
- IPPE 6150 IPPE and IPE: Transitions of Care and Health Care Teams (1 Cr.)*
- MGMT 6100 Pharmacy Law (2 Cr.)
- PHAR 6191 IP: GI/Liver (2 Cr.)
- PHAR 6202 IP: Neurology/Psychiatry (5 Cr.)
- PHAR 6261 IP: Infectious Diseases (5 Cr.)
- PHAR 6281 IP: Hematology/Oncology/Immunology (3 Cr.)
- PHAR 6223 IP: Special Populations (4 Cr.)
- PHIM 6131 Information Mastery III: Clinical Applications (2 Cr.)
- PHPR 6141 Pharmacy Practice Skills Lab IV (1 Cr.)
- PHPR 6152 Pharmacy Practice Skills Lab V (1 Cr.)
- PHTD 6041 Top Drugs Proficiency IV (0 Cr.)
- PHTD 6052 Top Drugs Proficiency V (0 Cr.)

Professional Year 4

- APPE 7100 Advanced Pharmacy Practice Experience: Ambulatory Care (5 Cr.)
- APPE 7200 Advanced Pharmacy Practice Experience: General Medicine (5 Cr.)
- APPE 7300 Advanced Pharmacy Practice Experience: Community Care (5 Cr.)
- APPE 7400 Advanced Pharmacy Practice Experience: Health System (5 Cr.)
- APPE 7500 Advanced Pharmacy Practice Experience: Patient Care Selective (5 Cr.)
- APPE 7600 Advanced Pharmacy Practice Experience: Elective I (5 Cr.)
- APPE 7700 Advanced Pharmacy Practice Experience: Elective II (5 Cr.)
- APPE 7800 Advanced Pharmacy Practice Experience: Elective III (5 Cr.)

Electives

Electives in the professional curriculum broaden and deepen students' educational experiences beyond the required courses. In the pharmacy curriculum, electives offer students an opportunity to explore pharmacy related topics in depth, allowing them to see the complexities of pharmacy practice and related issues.

The electives offered in this program should have a meaningful relationship with pharmacy practice and professional outcomes.

As a requirement for graduation, all students are required to complete a minimum of 9 hours of electives (one elective course must have a writing emphasis) in addition to the 3-credit hour Integrated Capstone Selective.

- Professional electives (9 Cr.) (one writing emphasis required)

*course spans over fall and spring semester

COLLEGE OF GRADUATE STUDIES

Master of Science (M.S.) in Medicinal Chemistry (College of Graduate Studies)

This thesis-based program focuses on drug design and synthesis and prepares students to enter the workforce or continue their studies in a Ph.D. program. Students engage in hands-on chemistry activities in a laboratory setting as part of this program.

The anticipated time to complete the M.S. in Medicinal Chemistry is two years, however, this is dependent on the project undertaken. UHSP undergraduate students entering the program may finish in a 4+1 timeline if they have already taken some of the required coursework at the graduate level. The program requires 32 credit hours of didactic and research coursework.

The following courses are required:

- CHEM 5571 Medicinal Chemistry I (3 Cr.)
- CHEM 5572 Medicinal Chemistry II (3 Cr.)
- CHEM 5500 Organic Reaction Mechanisms (3 Cr.)
- CHEM 5531 Spectroscopic Identification of Organic Compounds (3 Cr.)
- * Organic Synthesis (3 Cr.)
- * Structure Based Drug Design (3 Cr.)
- * Seminar (2 Cr.)
- CHEM 6701 Research in Medicinal Chemistry I (1 Cr.)
- CHEM 6702 Research in Medicinal Chemistry II
- * Master's Thesis Research (10 Cr.)

*course codes to be determined

Master of Science (M.S.) in Global Health and Equity (College of Graduate Studies)

This graduate degree will equip students with an understanding of emerging global health issues and prepare them to be a transdisciplinary thinker who promotes social justice and health equity by influencing change, improving health outcomes and fostering domestic and international growth.

This 18-month program includes two semesters of didactic course work followed by a 6-month hands-on capstone/practicum guided by experts in the field. Based domestically or abroad, this experiential, field-based education allows students to learn how theoretical global health and equity concepts are implemented within specific contexts. Students will have flexibility to tailor their capstone experience to match their passion and career goals.

Through a mix of required and elective courses, consisting of 32 credit hours total, students will develop a deep understanding of the economic, social, environmental, political and health care issues afflicting

vulnerable populations around the world. The M.S. in Global Health and Equity program provides students with a wider perspective on these pressing issues with instruction from faculty with cross-disciplinary expertise.

The following courses are required:

- GLBH 5501 Principles and Critical Issues in Global Health (3 Cr.)
- GLBH 5502 Determinants of Health and Health Equity (3 Cr.)
- GLBH 5503 Comparative Health Systems and Global Health Policy (3 Cr.)
- GLBH 5505 Global Health and Equity Case Series and Seminar I (1 Cr.)
- GLBH 5506 Global Health and Equity Case Series and Seminar II (1 Cr.)
- GLBH 5700 Research Methods Fundamentals (3 Cr.)
- GLBH 5701 Epidemiology (3 Cr.)
- *Global Health and Equity Capstone (1-9 Cr.)
- 6 hours of the following:
 - GLBH 5601 Illness, Identity, and Inequality in U.S. History (3 Cr.)
 - GLBH 5602 Leadership and Change (3 Cr.)
 - GLBH 5603 Introduction to Pharmacoeconomics and Outcomes Research (3 Cr.)
 - GLBH 5604 HIV/AIDS and Society (3 Cr.)
 - *International and National Legal Environments for Health Care (3 Cr.)

*course codes to be determined

Graduate Certificates (College of Graduate Studies)

The global health and equity graduate certificates are 10 credit hours each. They are a subset of the M.S. in Global Health and Equity coursework and can be taken as stand-alone certificate programs or used as steppingstones toward the M.S. in Global Health and Equity. There are pathways to add these certificates to other programs including the Doctor of Pharmacy degree.

Global Health and Equity Advocacy Graduate Certificate

The following courses are required:

- GLBH 5501 Principles and Critical Issues in Global Health (3 Cr.)
- GLBH 5503 Comparative Health Systems and Global Health Policy (3 Cr.)
- GLBH 5505 Global Health and Equity Case Series and Seminar I (1 Cr.) **OR** GLBH 5506 Global Health and Equity Case Series and Seminar II (1 Cr.)
- 3 hours of the following:
 - GLBH 5502 Determinants of Health and Health Equity (3 Cr.)
 - GLBH 5601 Illness, Identity, and Inequality in U.S. History (3 Cr.)
 - GLBH 5604 HIV/AIDS and Society (3 Cr.)

Foundations in Global Health and Equity Graduate Certificate

The following courses are required:

- GLBH 5505 Global Health and Equity Case Series and Seminar I (1 Cr.) **OR** GLBH 5506 Global Health and Equity Case Series and Seminar II (1 Cr.)
- GLBH 5700 Research Methods Fundamentals (3 Cr.)
- GLBH 5701 Epidemiology (3 Cr.)
- 3 hours of the following:
 - GLBH 5603 Introduction to Pharmacoeconomics and Outcomes Research (3 Cr.)
 - *Research Elective-Special Projects (3 Cr.)

*course codes to be determined

COURSE DESCRIPTIONS

DEFINITIONS

300- or 400-level courses:

Undergraduate courses with a number designation where the second number of the course code is a 3 or 4 (e.g. CHEM 3321, SOCI 3320, and LITR 3310.)

Elective:

An elective course is any course that a student can take to meet general credit requirements for graduation.

Selective:

A selective is any one of a select number of courses that meets the specific needs of a degree requirement.

Advanced Chemistry Selective (ACS):

The foundational chemistry curriculum (CHEM1-5) is based upon concepts of physical, analytical, organic and biochemistry. An advanced chemistry selective is an in-depth course that expands upon the content of foundational courses, integrates concepts from these courses or applies concepts from these courses in new situations.

Advanced Biology Selective (ABS):

The core biology curriculum is based upon concepts of ecology and evolutionary biology, genetics, microbiology, cellular biology, anatomy and physiology. An advanced biology selective is an in-depth course that expands upon the content of foundational courses, integrates concepts from these courses or applies concepts from these courses in new situations.

Global Health Selective:

A course used to fulfill degree requirements in the global health bachelor's degree. Typically completed during the sophomore, junior and senior years of the program, these courses help students explore various subjects in global health.

Liberal Arts Selective:

A 300- or 400-level course in history, literature or the social and behavioral sciences used to fulfill degree requirements in the pharmaceutical sciences with a health humanities emphasis bachelor's degree.

Literature Selective:

A course required in the pharmaceutical sciences bachelor's degree that may also be used to fulfill requirements in various degree programs, especially in the medical humanities bachelor's degree.

Professional Elective:

An elective course that is pharmacy based or enhances the role of a pharmacist. The course broadens or deepens educational experiences beyond required courses for the Doctor of Pharmacy.

Science, Technology, Engineering and Mathematics (STEM) Selective:

The STEM selective is a specific destination for a required selective in the pharmaceutical sciences degree. The STEM selective is a 200-, 300- or 400-level course that expands upon foundational courses in science and math and integrates or applies concepts from these courses in new situations.

Social Science Selective:

Required for the pharmaceutical sciences bachelor's degree, these social and behavioral science courses may fulfill requirements in various degree programs, especially in the medical humanities.

Writing Emphasis:

A course which meets the criteria for a professional elective in which writing as a strategy for learning is distributed throughout the semester and is a focus of the course.

Writing Intensive:

A 300- or 400-level undergraduate course designed to include multiple, revisable assignments which provide students multiple practice opportunities with targeted feedback. These courses help students refine their thinking and writing skills in a particular subject at an advanced level.

COURSE NUMBERS

The four-letter prefix for each course number is as follows:

ARTS = fine arts
ANTH = anthropology
APPE = advanced pharmacy practice experience
BIOL = biology
BPHS = biological physical health sciences
CHEM = chemistry
COMM = communication
COMP = computer science
DATA = data analytics
ECON = economics
EXSC = exercise science
FILM = film
GLBH = global health
HCAM = health care administration and management
HHEL = health humanities
HHWI = writing intensive health humanities
HIST = history-based humanities
IPPE = introductory pharmacy practice experience
LITR = literature
MATH = math courses such as calculus and statistics

MGMT = management courses
MHUM = medical humanities
MUSI = music
PETR = professional elective transfer
PGEL= pharmacy general elective
PHAR = interdisciplinary pharmacy
PHED = physical education
PHIL = philosophy
PHIM = pharmacy information management
PHPR = pharmacy practice
PHRC = pharmaceuticals
PHSC = pharmaceutical sciences
PHTD = pharmacy top drugs
PHYS = physics
PSYC = psychology
PPEL = pharmacy practice electives
PROJ = special projects
PSEL = pharmaceutical sciences electives
RSPR = research project
SEMR = first-year seminar (Foundations of Learning)
SETO = selected topics
SOCI = sociology
SSCI = social science
WRIT = writing

ANTH 2220 Anthropology: The Human Story (3 Cr.)

Anthropology is the study of the evolving human species and the cultures it creates. It studies the past of fossils and artifacts as well as current traits. Time is “told” in the laboratory and in the field.

Anthropology is a science of observation. This course intends to explore the past and some of our current world to learn about ourselves and about one of the social sciences that studies us. (social and behavioral science general education, social science selective; prerequisites: SOCI 2210 and WRIT 1102 with a C- or better)

APPE 7100 Advanced Pharmacy Practice Experience: Ambulatory Care (5 Cr.)

During the last professional year of the pharmacy program, students complete a series of eight, full-time advanced pharmacy practice experiences (APPEs or “rotations”). The purpose of these APPEs is to prepare students to render patient care by practicing professional ability outcomes in a variety of environments. These courses are designed to build upon general and professional abilities developed in the preceding professional curricula. Students complete 200 hours over five weeks under the supervision of an approved pharmacist preceptor. Student pharmacists function as part of a team for a variety of activities.

This ambulatory care APPE occurs in physician offices or clinics with access to an interprofessional health care team. Student pharmacists participate in medication management and education for a variety of chronic conditions.

(prerequisites: completion of all Professional Years 1–3 didactic coursework with a C- or better, passing scores on all top drugs proficiency exams and the pharmacy calculations proficiency exam, minimum cumulative professional GPA of 2.0, completion of P1-P3 co-curricular requirements, current Missouri intern license, completion of all health, drug testing and background requirements, and other state’s intern/ technician license as required if completing the APPE outside of Missouri)

APPE 7200 Advanced Pharmacy Practice Experience: General Medicine (5 Cr.)

During the last professional year of the pharmacy program, students complete a series of eight, full-time advanced pharmacy practice experiences (APPEs or “rotations”). The purpose of these APPEs is to prepare students to render patient care by practicing professional ability outcomes in a variety of environments. These courses are designed to build upon general and professional abilities developed in the preceding professional curricula. Students complete 200 hours over five weeks under the supervision of an approved pharmacist preceptor. Student pharmacists function as part of a team for a variety of activities.

This general medicine APPE occurs in hospitals with access to an interprofessional health care team. Student pharmacists participate in medication management and education for a variety of acute and chronic conditions for hospitalized patients.

(prerequisites: completion of all Professional Years 1–3 didactic coursework with a C- or better, passing scores on all top drugs proficiency exams and the pharmacy calculations proficiency exam, minimum cumulative professional GPA of 2.0, completion of P1-P3 co-curricular requirements, current Missouri

intern license, completion of all health, drug testing and background requirements, and other state's intern/ technician license as required if completing the APPE outside of Missouri)

APPE 7300 Advanced Pharmacy Practice Experience: Community Care (5 Cr.)

During the last professional year of the pharmacy program, students complete a series of eight, full-time advanced pharmacy practice experiences (APPEs or "rotations"). The purpose of these APPEs is to prepare students to render patient care by practicing professional ability outcomes in a variety of environments. These courses are designed to build upon general and professional abilities developed in the preceding professional curricula. Students complete 200 hours over five weeks under the supervision of an approved pharmacist preceptor. Student pharmacists function as part of a team for a variety of activities. This community care APPE occurs in community pharmacies.

Student pharmacists participate in daily pharmacy operations including prescription processing, medication management and education of patients, self-care referrals and recommendations, and other management and regulatory activities.

(prerequisites: completion of all Professional Years 1–3 didactic coursework with a C- or better, passing scores on all top drugs proficiency exams and the pharmacy calculations proficiency exam, minimum cumulative professional GPA of 2.0, completion of P1P3 co-curricular requirements, current Missouri intern license, completion of all health, drug testing and background requirements, and other state's intern/ technician license as required if completing the APPE outside of Missouri)

APPE 7400 Advanced Pharmacy Practice Experience: Health System (5 Cr.)

During the last professional year of the pharmacy program, students complete a series of eight, full-time advanced pharmacy practice experiences (APPEs or "rotations"). The purpose of these APPEs is to prepare students to render patient care by practicing professional ability outcomes in a variety of environments. These courses are designed to build upon general and professional abilities developed in the preceding professional curricula. Students complete 200 hours over five weeks under the supervision of an approved pharmacist preceptor. Student pharmacists function as part of a team for a variety of activities.

This health system APPE occurs in hospitals or acute care facilities. Student pharmacists participate in daily pharmacy operations in various areas of the facility including order processing, medication management and education of hospitalized patients, medication safety initiatives, and other management and regulatory activities.

(prerequisites: completion of all Professional Years 1–3 didactic coursework with a C- or better, passing scores on all top drugs proficiency exams and the pharmacy calculations proficiency exam, minimum cumulative professional GPA of 2.0, completion of P1-P3 co-curricular requirements, current Missouri intern license, completion of all health, drug testing and background requirements, and other state's intern/ technician license as required if completing the APPE outside of Missouri)

APPE 7500 Advanced Pharmacy Practice Experience: Patient Care Selective (5 Cr.)

During the last professional year of the pharmacy program, students complete a series of eight, full-time advanced pharmacy practice experiences (APPEs or "rotations"). The purpose of these APPEs is to

prepare students to render patient care by practicing professional ability outcomes in a variety of environments. These courses are designed to build upon general and professional abilities developed in the preceding professional curricula. Students complete 200 hours over five weeks under the supervision of an approved pharmacist preceptor. Student pharmacists function as part of a team for a variety of activities.

This patient care selective APPE occurs in acute or ambulatory care settings with a focus on a medical subspecialty area (e.g., infectious disease, critical care, oncology, etc.). Student pharmacists participate in medication management and education for the specialty population.

(prerequisites: completion of all Professional Years 1–3 didactic coursework with a C- or better, passing scores on all top drugs proficiency exams and the pharmacy calculations proficiency exam, minimum cumulative professional GPA of 2.0, completion of P1-P3 co-curricular requirements, current Missouri intern license, completion of all health, drug testing and background requirements, and other state's intern/ technician license as required if completing the APPE outside of Missouri)

APPE 7600, 7700, 7800 Advanced Pharmacy Practice Experience: Elective I, II, III (5 Cr. each)

During the last professional year of the pharmacy program, students complete a series of eight, full-time advanced pharmacy practice experiences (APPEs or “rotations”). The purpose of these APPEs is to prepare students to render patient care by practicing professional ability outcomes in a variety of environments. These courses are designed to build upon general and professional abilities developed in the preceding professional curricula. Students complete 200 hours over five weeks under the supervision of an approved pharmacist preceptor. Student pharmacists function as part of a team for a variety of activities.

Of the three required elective APPEs, one must have a patient care focus. Patient care elective APPEs occur in a variety of settings that provide direct patient care. Examples include specialty pharmacy, women's health, or transitions of care. Student pharmacists participate in medication management and education of patients. Of the three required electives, one or two may focus on areas of pharmacy that do not emphasize patient care. These non-patient care elective APPEs occur in a variety of settings. Examples include drug information, managed care, compounding, industry or research-intensive sites.

(prerequisites: completion of all Professional Years 1–3 didactic coursework with a C- or better, passing scores on all top drugs proficiency exams and the pharmacy calculations proficiency exam, minimum cumulative professional GPA of 2.0, completion of P1-P3 co-curriculum requirements, current Missouri intern license, completion of all health, drug testing and background requirements, and other state's intern/ technician license as required if completing the APPE outside of Missouri)

ARTS 1100 Introduction to Art History (3 Cr.)

This course will challenge students to develop and enhance their visual literacy skills by studying famous and not-so-famous works of art in several of their forms from the prehistoric era to the present. This course uses the visual arts as a vehicle for students to practice and refine their writing and global learning skills while enhancing their ability to become global thinkers and citizens. (humanities and fine arts general education; corequisite: WRIT 1101)

BIOL 1100 Modern Biology (4 Cr.)

Introduces students to fundamental biological principles within the context that all living things are complex and shaped by natural selection at multiple scales. Students will focus on four contemporary themes in biology: cellular structure and function, inheritance and flow of genetic information, evolution and biodiversity, and environmental science. This course in modern biology emphasizes critical thinking and connects essential biological concepts to current world events and scientific studies that are relevant to students' lives. In the laboratory portion of the course, students will be expected to demonstrate appropriate laboratory techniques and collaborative learning skills, to use knowledge and skills obtained through observation and experimentation to demonstrate an understanding of the scientific method, and to gather and analyze data. Format: lecture and laboratory are co-requisites. (natural sciences general education; prerequisites: none) (restrictions: no credit awarded if credit already received for BIOL 1111).

BIOL 1101 Medical Terminology (3 Cr.)

This online self-paced course helps students to understand the specialized vocabulary used by healthcare professionals. The focus of this course is on medical and clinical terminology broadly relating to human anatomy and physiology and the basic body systems with added emphasis placed on those terms pertaining to diagnosis and pathophysiology. Significant time will also be spent on the roots of medical terms (prefixes and suffixes.) Pertinent acronyms and abbreviations will also be included. (prerequisites: none)

BIOL 1105 Science Fiction (3 Cr.)

This course critically assesses the reality of the life sciences as portrayed in film. Specifically, students will analyze potential public perceptions, misconceptions, and stereotypes about the life sciences and scientists as presented in film, critically assess the reality of how the life sciences are portrayed in film (a.k.a. science fiction v. science "fact"), discuss the ethical use of science and scientific technologies in society, analyze how scientific theories and discoveries can be applied in the real-world, and realize how "fiction" is not limited to our present technological means and abilities, but also may be built around sound scientific principles that can be explored with advances in technology. Over the course of the semester, students will provide written reviews of several films, lead group discussions, and create an original science fiction film. (prerequisites: BIOL 1111 with a C- or better)

BIOL 1111 Introductory Biology I (4 Cr.)

This course introduces students to the chemical and biological principles that are needed for a foundational understanding of biological pathways within cells, energy creation and utilization, gene expression, and cell division and development. In the laboratory portion of the course, students will be expected to demonstrate appropriate laboratory techniques and collaborative learning skills, to use

knowledge and skills obtained through observation and experimentation to demonstrate an understanding of the scientific method, and to gather and analyze data. Format: lecture and laboratory. (natural sciences general education; prerequisites: none)

BIOL 1112 Introductory Biology II (4 Cr.)

This course explores basic Mendelian genetics and its application to human genetics, the role of genetics in evolution and the mechanisms involved in natural selection. Evolution provides the conceptual basis for a study of the phylogenetic development of the biologic kingdoms in increasing order of complexity culminating with an in-depth discussion of animal form and function (emphasis on humans). Interactions between living organisms and the nonliving environment among living organisms provide a basis for discussing the impact of global changes on ecosystems. Format: lecture and laboratory. (natural sciences general education; prerequisites: BIOL 1111 with a C- or better)

BIOL 1221 Human Anatomy and Physiology I (4 Cr.)

This course in a sequence of two courses introduces students to the core concepts of human anatomy and physiology that form the basis for understanding medical treatments and drug therapies. These courses have a required laboratory component. This course is a prerequisite for entrance into nursing and allied health programs. (natural sciences general education; prerequisites: BIOL 1111 with a C- or better)

Biology 2200 Evolution (3 Cr.)

This course is designed to introduce the major principles of evolutionary biology. Evolution is an extremely comprehensive, broad, and interesting topic which forms the core of all of biology. Lecture topics will include patterns of evolution, natural selection, phylogenetics, population genetics, form and function, mating systems, and coevolution. End-of-unit discussions will typically relate lecture concepts to topics in evolutionary medicine such as reproduction, cancer, and antibiotic resistance. (natural sciences general education, STEM selective; prerequisites: BIOL1100 with a C- or better).

BIOL 2220 Human Anatomy (4 Cr.)

The focus of this course is to use a systemic approach to learn and understand the details of human anatomy and applied anatomical and medical terminology. At every organizational level, emphasis is made on the relationship between structure and function. Format: lecture and laboratory. (prerequisites: BIOL 1112 with a C- or better)

BIOL 2231 Human Physiology (4 Cr.)

This course emphasizes basic cellular processes and current understandings of the cellular mechanisms of: cellular respiration, membrane transport, maintenance of ion gradients, electrical membrane potentials, contraction, cell signaling, signal transduction and second messenger systems. An overview is provided of cell-to-cell communication, general cytology, muscle contraction, synaptic transmission, neural reflex arcs, general endocrinology, general hematology, cardiovascular system, blood pressure regulation, respiratory system, urine formation, general acid-base balance, fluid and electrolyte balance,

reproductive system and the digestive system. Format: lecture and laboratory. (prerequisites: BIOL 2220 with a C- or better; corequisites: CHEM 1106)

BIOL 2232 Human Anatomy and Physiology II (4 Cr.)

This course in a sequence of two courses introduces students to the core concepts of human anatomy and physiology that form the basis for understanding medical treatments and drug therapies. These courses have a required laboratory component. This course is a prerequisite for entrance into nursing and allied health programs. (natural sciences general education; prerequisites: BIOL 1221 with a C- or better)

BIOL 2250 Genetics (3 Cr.)

An introduction to heredity. A balanced presentation is made in the fields of classical, molecular and population genetics. Topics include: Mendelian inheritance, the nature and behavior of the gene and chromosome, chromosome mapping, cytoplasmic inheritance, human genetics, microbial genetics, and heredity as related to environment and evolution. (STEM selective; prerequisites: BIOL 1112 with a C- or better)

BIOL 2260 Nutrition (3 Cr.)

In this course, students will explore the composition, break down and utilization of food by the body and how it relates to health and maintenance. As a result of this course, students will gain a deeper understanding of nutritional guidelines, food chemistry, metabolism, supplements, vitamins, minerals and their role in maintaining health, as well as preventing or inducing the disease state. Students will learn to assess and predict the outcome of dietary choices as they relate to health. They will learn to analyze food in light of given boundary criteria for health or nutritional goals. Students will learn to assess dietary and nutritional claims commonly encountered in media and information outlets for their biological and chemical accuracy. Students will gain perspective in placing diets and nutrition in a larger context of medicine, health, agriculture, economics, society and psychology. (natural sciences general education, STEM selective; prerequisite: BIOL 1111 with C- or better)

BIOL 3240 Microbiology (4 Cr.)

This course introduces students to the history of microbiology, different types of microbial agents and their structures, microbial metabolism and culture methods, microbial genetics, microbial control and antimicrobial drugs, epidemiology and diseases of different body systems. The laboratory introduces students to brightfield microscopy and standard microbiological staining techniques. Standard microbiological culturing techniques will be employed to study known organisms and then applied to the analysis of unknown microorganisms. Format: lecture and laboratory. (prerequisites: BIOL 1111 with C- or better)

BIOL 3310 Cell Biology (3 Cr.)

This course focuses on the fundamental structures and processes of eukaryotic cells. Topics include membrane composition and dynamics, vesicular trafficking, inter- and intra-cellular communication, programmed cell death, the cell cycle, the cytoskeleton and molecular motors, cell contact and

extracellular matrix interactions, cancer and stem cells. Format: lecture and discussion (STEM selective; prerequisites: BIOL 2231 and CHEM 2314 or CHEM 1232 with a C- or better)

BIOL 3320 Advanced Histology (3 Cr.)

The focus of this course is to use a systemic approach to learn and understand the details of histology. Histologists believe that the microarchitecture of tissues is the foundation on which physiology and pathophysiology are built. Topics to be studied include the specialization of cells and intercellular connections, the classification of the histological categories, the microarchitecture of tissues within organs, and the functional and structural interrelationship of the tissues. References to clinical evaluations made using pathology of tissues will be incorporated into the content while studying normal tissue structure. Format: lecture and laboratory. (advanced biology selective, STEM selective; corequisites: BIOL 2231 with a C- or better)

BIOL 3330 Extreme Physiology (3 Cr.)

This course will examine the interrelations between homeostatic, compensatory mechanisms and specific features of environmental stress. The effects of external body temperature, relative humidity, barometric pressure and gravity, on basic physiologic processes such as external and internal gas exchange, obligate water loss, blood circulation, etc. will be examined in some detail. Building off of the concept of gradients, the course will explore how specific alterations in normal gradients would be expected to alter physiologic function. Students will choose an extreme environment and research answers revealing if and how the human body could adapt and acclimate to the specific suite of environmental challenges presented by that particular environment. The limits of human physiology will be compared and contrasted with other animals' adaptations (if any) to specific components of those extreme environments. (advanced biology selective, STEM selective, writing intensive; prerequisites: BIOL 2231 and CHEM 2314 or CHEM 1232)

BIOL 3340 Public Health Microbiology (3 Cr.)

In this course we will review some of the historical highlights of human and microbe interactions in health and disease from food production and preservation, to the development of the concept of contagion and the global impact of infectious disease in human history (smallpox, plague, cholera, malaria, typhus, influenza, tuberculosis, polio, AIDS, Ebola etc.). We will look at the driving forces behind the development of public health projects as a product of the industrial revolution (drinking water quality, waste treatment, industrial food production and delivery from the farm to the table). The discovery, development and widespread use and misuse of antimicrobials and their impact on the maintenance and treatment of human health and disease. The role of vaccines in the maintenance of human health primarily by prevention of disease will also be discussed. (advanced biology selective, STEM selective; prerequisites: BIOL 3240 with a C- or better)

BIOL 3350 Aerobic Energy Metabolism (3 Cr.)

This writing-intensive course examines the limitations of oxygen kinetics in the production of energy (ATP) in humans. The normal physiologic limitations of the heart, lung, blood and skeletal muscle on the aerobic production of energy at rest and during maximal aerobic exercise will be emphasized. Additionally, the effects of various conditions and diseases, especially the heart, lung, blood and skeletal muscle on aerobic energy production, will be explained. This course also emphasizes the technical

considerations of measurement and calculation of oxygen kinetics related variables. The intent of this course is to provide students with an additional opportunity to extend their understanding of physiological-related mechanisms in health and disease, as well as improve their scientific writing skills. (advanced biology selective, STEM selective, writing intensive; prerequisites: CHEM 3321 with a C- or better)

BIOL 3360 Pathophysiology (3 Cr.)

This course provides students with a basic understanding of factors that contribute to the occurrence of various diseases from the organismic level to the subcellular and how those diseases may be treated by clinical professionals. Students will learn how to recognize the signs and symptoms of diseases that may be found in a health record as well as sub-cellular markers and laboratory and diagnostic tests that may be used to identify disease conditions. (advanced biology selective, STEM selective; prerequisites: BIOL 2231 with a C- or better)

BIOL 3365 Science, Ethics and Society (3 Cr.)

This discussion-based course is designed to provide an opportunity for undergraduate students to create connections between their science coursework, our society and the ethical issues of science. Topics address basic questions that scientists face continuously, from our responsibilities to human and animal subjects, to the social consequences of our discoveries and their implementation, to the treatment of individual scientists within the greater scientific community. The common thread throughout the course is the topic of scientific integrity. The course looks at who participates in science at various levels, issues of implicit bias, the value of diversity in science and approaches to make science accessible to all. Students will learn about issues of ethics in science and wrestle with activities that help them understand the complexities of scientific integrity and ethics within science and society. Format: discussion (advanced biology selective, STEM selective, writing intensive; prerequisites: BIOL 2231 and CHEM 2314 or CHEM 1232 with a C- or better)

BIOL 3370 Nutrition for Pharmacists (3 Cr.)

A lecture and discussion elective, this course will provide students with a background in general nutrition that will inform them about the role of nutrition and good health. This course will focus on the positive and negative effects that various types of food choices have on health. This course does not include clinical nutrition but should provide sufficient background information to foster comprehension of the role of nutrition in managing disease states when this material is taught in subsequent pharmacy courses. After successfully completing this course, students should be able to: analyze a diet to determine its nutritional merit, evaluate their own diet for strengths and weaknesses, advise others on the components of a good diet, demonstrate the connections between health, disease and diet, evaluate the quality of nutrition information available in the media, understand the factors that influence dietary choices, and understand the long term consequences of our current unsustainable food production methods. (STEM selective, writing intensive; prerequisites: BIOL 2231 with a C- or better; corequisites: CHEM 3321)

BIOL 3380 Virology (3 Cr.)

The course will provide an overview of medically relevant virus families, their mechanisms of replication, transmission and establishment of viral infectious disease. Prevention and treatment of viral diseases, as

well as antiviral immunity with an emphasis on virus-host interactions as a key to understanding the diversity of viruses and viral diseases. (advanced biology selective, STEM selective; prerequisites: BIOL 3240 with a C- or better)

BIOL 3390 Exercise Physiology (3 Cr.)

The purpose of this course is to increase the student's knowledge and understanding about the adaptations to normal physiology that occur during exercise. Exercise physiology is a branch of physiology that deals with human body function during exercise. An understanding of how the body responds to acute and chronic exercise is crucial for students interested in pursuing a career in physical education, athletic training, coaching, fitness, or exercise physiology. Emphasis is placed on bioenergetics, circulatory, respiratory and neuromuscular responses to exercise, as well as the effects of environmental factors on athletic performance. (advanced biology selective, STEM selective; prerequisites: BIOL 2231 or BIOL 2232 with a C- or better)

BIOL 4100/BIOL 4360 Principles of Immunology (2 Cr.)

The focus of this course is to introduce students to the cellular, molecular and biochemical aspects of the innate and adaptive immune systems. An emphasis will be placed on learning and understanding the differences and interconnectedness of these two systems. Format: lecture (prerequisites: BIOL 3240 with a C- or better) (restrictions: Professional Year 1 to enroll in BIOL 4100)

BIOL 4101/BIOL 4432 Medical Physiology (3 Cr.)

The overall aim of this course is to acquire a thorough knowledge and appreciation of the function and control of normal organs and systems that will serve as the basis for a high level of understanding of the physiological basis of clinical medicine. The essential concepts of physiology and mechanisms of body function are presented at various levels of organization, ranging from cellular and molecular to organ system levels. Emphasis is placed on understanding the integrated regulation of various body processes among the major systems that is and are necessary to maintain homeostasis. In this course, students are exposed to foundational information necessary for both rendering pharmaceutical care and for understanding their own health status. Appropriate use of medical terminology is reinforced, and students are given the opportunity to reinforce the information-seeking and information- interpreting skills, behaviors and attitudes that are essential in the development of life-long learning habits. (advanced biology selective; prerequisites: BIOL 2231 and CHEM 3321 with a C- or better) (restrictions: Professional Year 1 to enroll in BIOL 4101)

BIOL 4201/BIOL 4355 Principles of Molecular Biology and Genetics (3 Cr.)

This course introduces students to nucleic acid and protein synthesis principles and function concerning pharmacy and medicine. These include nucleic acid structure; the significance of molecular complementarity; processes of DNA replication, repair and recombination, DNA manipulation and its application; RNA synthesis and processing; protein synthesis; and regulation of gene expression in prokaryotes and eukaryotes. This course also introduces genomics, pharmacogenomics, basic molecular genetics, and human molecular genetics principles related to cell cycle and cancer. Three hours of lecture each week for a semester-long course. (prerequisites: BIOL 3310 or CHEM 3321 with a C- or better) (restrictions: Professional Year 1 to enroll in BIOL 4201)

BIOL 4356L Principles of Molecular Biology and Genetics Lab (1 Cr.)

This course is a dedicated, stand-alone lab course. Students will use a combination of wet-lab activities in conjunction with computer-simulated experiments to understand how the techniques and theories of cellular and molecular biology are applied to answer scientific questions. Methods include micropipette technique, PCR primer design, PCR reactions, bacterial transformation, gel electrophoresis, and sequence analysis. (corequisite: BIOL 4355)

BIOL 4310 Biology Seminar (1 Cr.)

The biology seminar will provide an opportunity for students in biology to choose journal articles in their area of interest to present a journal club to their classmates who will review and critique their presentation. The students will also find a science seminar presentation to attend outside of class to evaluate. These activities will help prepare a student for a post-graduate career path in science or medicine in which they need to be able to communicate with others in their field. Format: discussion (prerequisites: BIOL 2231 with a C- or better)

BIOL 4410 Neuroscience (3 Cr.)

This course focuses on the structures and functions of the human nervous system. This course begins with the study of neurons and the propagation of nerve impulses. We will also study the transfer of information between nerve cells, the effects of drugs, and the development of the nervous system. We then move to the sensory systems such as olfaction, hearing and vision and discuss how physical energy such as light may be converted into neural signals and where this information is processed within the brain. Next, we study the control of voluntary movement. Finally, we cover the neurochemical bases of brain diseases and those systems which control motivation, emotion, learning and memory. (advanced biology selective, STEM selective; prerequisites BIOL 2231 or BIOL 3310 and PHYS 3200 or BIOL 3310 and PHYS 3212 with a C- or better)

BIOL 4465 Immunology (1 Cr.)

The focus of this course is to further expand the students' knowledge of the cellular, molecular and biochemical aspects of the innate and adaptive immune systems. Immunological processes as they apply to methodologies and essays will be discussed. This course must be taken concurrently with BIOL 4460 (advanced biology selective; corequisites: BIOL 4360)

BPHS 1100 Science Connections (3 Cr.)

Most medical advances we enjoy today arose from a trail of scientific discoveries that were never intended for those purposes. The aim of this course is to give students an appreciation for the value of basic science, not only for its insight into nature, but also for its ability to fuel unimaginable technologies and medical advances. Each semester students choose medical advances to discuss in class and explore how they are rooted in multidisciplinary scientific discoveries. Format: lecture, active-learning activities, and hands-on demonstrations. (natural sciences general education; prerequisites: none)

BPHS 1201 Introduction to Research in Basic Sciences I (1 Cr.)

How are research labs structured? How do you plan an experiment with ideal controls? How does the scientific method play out in the research setting? How do you record notes from an experiment? What methods will your research utilize? How do you find and read research articles on your topic? What is the difference between a primary article and a review in your area? What are reference lists versus annotated bibliographies? How do you describe your research project to others in general terms? This course addresses these and other questions and is aimed at students actively involved in research in the wet lab, field work, or science equipment-based laboratories. Format: discussion. (prerequisites: participation in a faculty member's research laboratory and instructor permission)

BPHS 1202 Introduction to Research in Basic Sciences II (1 Cr.)

You can do the best experiment in the world, but if you can't describe and explain it to others, how does that further science? We will learn about abstracts; draft and write an abstract for your research project, learn about poster presentations; outline, draft, and create your own posters; learn about oral presentations and discuss what makes a good one; and finally, practice and present your poster presentation for faculty and student peers. The course is available to students not a part of the program but who are in a research lab with a faculty member and/or are interested in the material. Format: discussion. (prerequisites: participation in the Undergraduate Research Scholars program, participation in a faculty member's research laboratory, or instructor permission)

BPHS 3303 Junior Colloquium (1 Cr.)

This course is designed to support scientific research, reading of scientific literature, and discussion of the scientific method in the context of student research project. The components of a research proposal will be discussed, with the major project being the synthesis of a research proposal. This proposal could be a guide for wet-lab or other work for a student, or be the basis of a student grant proposal. Format: discussion. (advanced biology selective, STEM selective; prerequisites: BPHS 1201 and BPHS 1202 with a C- or better)

BPHS 3310 Biotechnology and Chemical Biology (3 Cr.)

Biotechnology offers students an overview of the various ways in which biochemistry, chemistry, microbiology and molecular biology are applied to an industrial process, laboratory technique or a technology product. This course is focused on the molecular and chemical details of the components, devices and systems that are used in biotechnology processes and chemical products. This material is delivered in both a lecture setting and through outside reading utilizing primary literature and review articles. A large component of class time is devoted to problem-solving and discussion. In this sense, some of the course follows a 'flipped-classroom' model. In discussion, current biotechnology processes or chemical products are evaluated for their effectiveness, economic impact and ethical concerns. Goals of the course include students developing an understanding and appreciation for what biotechnology and chemical biology are, their current limitations and their future potential. Particular attention is placed on strengths and weaknesses of biotechnology and chemical biology with respect to chemical composition, cost, technical feasibility, effectiveness, toxicity, timescale and environmental impact. Emphasis is placed on applying biological and chemical principles to problem-solving, creative design of products or processes of biotechnology, the reading and interpretation of scientific literature and published data and analysis of presented biotechnologies and techniques. This course contributes to the University mission by advancing students' understanding of how science can be applied to address

societal needs. (advanced biology selective, advanced chemistry selective, STEM selective; prerequisites: CHEM 3321 or BIOL 4201/BIOL 4355 with a C- or better)

BPHS 3320 Forensic Science (3 Cr.)

This course introduces students to the fundamentals of criminalistics (the scientific study and evaluation of physical evidence in the commission of crimes) and focuses primarily on the forensic evidence aspects of criminal investigation. Students are familiarized with identifying, collecting, preserving, accurately recording and processing evidence. Topics covered include: physical evidence, crime scene reconstruction, death investigation, serology, drugs/toxicology and DNA analysis. Demonstrations will give students some insight into what it is like to properly collect and interpret crime scene evidence. (advanced biology selective, STEM selective; prerequisites: BIOL 2231 and CHEM 2314 or CHEM 1232 with a C- or better)

BPHS 3370 The Fate of the Planet: Man's Impact on the Earth (3 Cr.)

This course addresses the relationship between our species, Homo sapiens, and the well-being of the earth's ecosystems. The course begins with the big bang and then follows the rise of life on Earth and the evolution of human beings. Students will learn how the environment shaped early humans and also how humans have, over time, altered the environment. Disruption of ecosystems by human activity will be explained. All of this leads up to the current problems we are facing with anthropogenic climate change. (STEM selective, writing intensive; prerequisites: BIOL 2231 with a C- or better; corequisites: CHEM 3321)

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CAPS 6000 Integrated Capstone Selective (3 Cr.)

This course will further hone patient care skills, develop project skills within the community pharmacy setting, and prepare students for advanced pharmacy practice experiences and their professional careers. The course utilizes a mixture of lecture, discussion, group work and other learning strategies for enhanced student participation and application. (prerequisites: all required courses for Professional Years 1 and 2, PHAR 6191, PHAR 6261, PHAR 6281, PHIM 6131, and PHPR 6141 with a C- or better; corequisites: PHAR 6202, PHAR 6322, PHPR 6152, MGMT 6100, and IPPE 6150)

CHEM 1100 Chemistry & Society (4 Cr.)

This course is designed to introduce the basic concepts of chemistry and expose you to situations in which chemical knowledge allows you to make logical and reasonable decisions in chemistry related issues. This course emphasizes the structure and properties of simple inorganic and organic chemicals that impact our day-to-day life. It is also designed to improve many learning skills that are part of the general education program. Topics include energy sources, consumer chemistry, nutrition, and drugs. The laboratory work involves individual or group projects, experiments, demonstrations, or seminars. All work is designed to accompany the lecture. Lecture and Laboratory are corequisites. (natural sciences general education; prerequisites: none) (restrictions: no credit awarded if credit already received for CHEM 1105).

CHEM 1105 General Chemistry I (4 Cr.)

This course introduces the general principles of chemistry for students planning a professional career in chemistry, a related science, or the health professions. General Chemistry 1 is a highly interactive and engaging course that covers atomic structure, periodic relationships, chemical bonding and geometry, moles, solutions, stoichiometry, types of chemical reactions, gas laws, and thermochemistry. This course introduces students to the physical world they live in through the eyes of a chemist. All matter is composed of atoms, and students begin their journey looking at the nature of atoms and their core composition and periodic properties. Matter is not just atoms, but combinations of atoms that form molecules. These combinations are explored through ways that electrons are shared to form bonds and the characteristic physical properties exhibited in molecules. Students will explore how and why atoms form bonds, the multiple ways that bonds are formed, the geometric patterns that atoms take when bonded, and the physical manifestations of these combinations. Intermolecular interaction is a key concept in explaining the physical properties of matter, so students will explore different types of intermolecular forces. Students will explore moles concepts, solutions and stoichiometric calculations of different types of chemical reactions. Students will be confronted with the states of matters, gas laws, and thermochemistry. Format: lecture and laboratory. (natural sciences general education; prerequisites: MATH 1000 with a C- or better)

CHEM 1106 General Chemistry II (4 Cr.)

This course is the second-semester course for the two-semester General Chemistry. This course describes fundamental chemical concepts and principles and explores quantitation of chemical species and processes. In this course students will focus on calculations and measurements of chemical matter to study the principles of chemical equilibrium and the rates and mechanisms of chemical reactions. Topics to be covered include chemical kinetics, chemical equilibria, electrochemistry and nuclear chemistry. Students will determine amounts of products and reactants at equilibrium, measure and predict concentrations based on solubility and acid/base properties, and quantify materials based on oxidation and reduction potentials. (natural sciences general education; prerequisites: CHEM 1105 with a C- or better)

CHEM 1231 Organic Chemistry 1 (4 Cr.)

CHEM 1231 is the first semester of a two-semester organic chemistry course. We will be exploring chemical properties and representations of organic molecules and how they relate to pharmaceuticals, the key reactions for drug action and metabolism through classic organic chemistry examples and an introduction to organic drug synthesis. Format: lecture and laboratory. (prerequisite: CHEM 1106 with a C- or better)

CHEM 1232 Organic Chemistry 2 (4 Cr.)

CHEM 1232 is the second semester of a two-semester organic chemistry course sequence. We will explore chemical properties and representations of organic molecules and how they relate to pharmaceuticals, the key reactions for drug action and metabolism through classic organic chemistry examples, spectroscopic determination of molecular structure, and an introduction to organic drug

synthesis using principles of introductory organic chemistry. Format: lecture and laboratory.
(prerequisite: CHEM 1231 with a C- or better)

CHEM 3321 Biochemistry (3 Cr.)

This course integrates students' prior coursework in biology and chemistry in order to apply the nature of chemical systems to biological processes. It covers the biochemistry of carbohydrates, lipids, amino acids, proteins, nucleotides and nucleic acids; mechanisms of enzyme action and the regulation of enzymatic pathways; intermediary metabolism; lipid metabolism and physiochemistry of hemoglobin, the vitamins and selected hormones. The lecture format incorporates a variety of exercises requiring data analysis and interpretation of biological molecules and phenomenon. (prerequisites: BIOL 1111 and CHEM 2314 or CHEM 1232 with a C- or better)

CHEM 3322L Biochemistry Lab (1 Cr.)

This laboratory course explores fundamental techniques of biochemistry-based experiments. Students start by learning micro pipetting and will progress to formulating and testing their own hypothesis in lab. Students will analyze and present their laboratory findings and record their work in a laboratory notebook. Scripted lab experiments include protein expression and purification, biomolecule quantification techniques, enzymatic and kinetic assays, spectroscopy of biomolecules, SDS-PAGE, dialysis, protein concentration, and bioinformatics. The latter half of the course is devoted to students learning the scientific method as they conduct an original research project within the lab. (corequisites: CHEM 3321)

CHEM 3323 Biochemistry II (3 Cr.)

This course continues the study of biochemistry topics initiated in introductory biochemistry courses. This course broadly focuses on two areas: metabolism, and then information flow and usage in the cell. Key topics covered are lipid metabolism, amino acid metabolism, nucleic acid metabolism, metabolic integration, photosynthesis, DNA replication, transcription, the genetic code, translation, and protein degradation. Topics are presented in a "flipped classroom" style wherein students will be assigned material prior to class time. This material may be reading, worksheets, recorded lectures, or problem and question sets. Class time will be used for discussion, data analysis, and working on problems. (advanced biology selective; prerequisite: CHEM 3321 with a C- or better)

CHEM 3330 Topics in Synthetic Organic Chemistry (3 Cr.)

Synthetic organic chemistry plays an important role in the drug development process by allowing scientists to create complex molecular structures. Modern application of synthetic reactions will be explored from recent literature. Discussions will include mechanism and retrosynthetic application of these reactions in key bond-forming reactions. The reactions discussed will be used to propose syntheses of drug-like molecules. (advanced chemistry selective, STEM selective, writing intensive; prerequisites: CHEM 2314 or CHEM 1232 with a C- or better)

CHEM 3331 Spectroscopic Identification of Organic Compounds (3 Cr.)

The purpose of this course is to be a comprehensive and contemporary introduction to the diverse and fascinating spectroscopic methods in organic chemistry. In this course, students will explore the use of infrared (IR) spectroscopy, mass spectrometry (MS), 1D and 2D nuclear resonance (NMR) spectroscopy, and ultraviolet spectroscopy to determine the structures of organic compounds. The course covers underlying principles and also provides direct experience in interpretation of spectral data.

Determination of unknown organic structures from spectral data is a highly rewarding puzzle-solving experience. All students will be trained in interpreting individual spectra and sets of combined spectra obtained by different methods, so that molecular compounds and materials are quickly and efficiently characterized with respect to their structure. Special emphasis will be placed on discussing, interpreting and documenting the data. This course will spend a majority of time on NMR spectroscopy but all of the methods will be used together to provide structural clues. (advanced chemistry selective, STEM selective; prerequisites: CHEM 2314 or CHEM 1232 with a C- or better)

CHEM 3350 The Internet of Things (3 Cr.)

The Internet of Things (IoT) is the network of physical objects or “things” embedded with electronics, software, sensors and network connectivity which enables these objects to collect and exchange data. IoT is found in a wide variety of settings such as health care (e.g. heart monitoring implants), industry (e.g. RFID chips for monitoring inventory), homes (e.g. smart thermostats) and even wearable technology (e.g. fitbits). In this course students will learn some of the skills required to design a project to remotely interact with a physical system of their choosing. Topics the student will learn include python programming, circuit design, internet protocols and chemical and physical sensors. Format: lecture and laboratory. (advanced chemistry selective, STEM selective; prerequisites: CHEM 1106 with a C- or better)

CHEM 3351 Cheminformatics (3 Cr.)

Cheminformatics is the study of using computers and informational techniques to solve problems in chemistry. It has now evolved to solve problems for the pharmaceutical industry by predicting chemical and biological properties of molecules as well as managing large chemical data sets. The world of big data is here, and the focus of this particular cheminformatics course is to provide students with an understanding of the nature of digital chemical data, and how to connect the workflow of professionals requiring chemical data in their jobs to the infrastructure of online chemical data repositories. (advanced chemistry selective, STEM selective; prerequisites: CHEM 2314 or CHEM 1232 with a C- or better)

CHEM 3360 Chemistry Learning Assistant Pedagogy (3 Cr.)

CHEM 3360 is a pedagogy course that introduces student learning assistants (LAs) to educational research, active learning and strategies that support: (1) eliciting student ideas and helping all group members become active and engaged in the class, (2) listening and questioning, (3) building relationships and (4) integrating learning theories with effective practices. In this course, LAs read articles from the education literature both specific to the chemistry discipline and more general. They engage in discussions about their experiences with students and how this relates to the literature, and they complete assignments including weekly online teaching reflections and interview-based investigations into students' current ways of thinking about a topic. They design interventions to assist students with topics or skills that are found to be difficult for students, and they solicit mid-semester evaluations of their teaching. In addition to the pedagogy meeting time, LAs are required to facilitate at

least once per week during the CHEM 1111 course, as well as develop and conduct effective supplemental learning sessions once per week. (advanced chemistry selective, STEM selective; prerequisites: CHEM 2314 or CHEM 1232 with a C- or better and approval of instructor)

CHEM 3370 Analytical Chemistry and Instrumental Analysis (4 Cr.)

The purpose of this course is to introduce the principles and practices in the fields of analytical chemistry and instrumental analysis and their applications with an emphasis on the pharmaceutical field. Students will gain a quantitative understanding of homogeneous and heterogeneous equilibria phenomena as applied to acid-base and complexometric titrations, rudimentary separations, optical spectroscopy, mass spectrometry, electrochemistry, and chemically applied statistics. Given the rapid growth in the type and complexity of chemical instrumentation, it would be difficult to cover every technique available. However, this course should provide students with the fundamental background on the workings of many important types of instruments that they will likely encounter in the future, including atomic spectroscopy, molecular spectroscopy, and chromatographic separation. (advanced chemistry selective, STEM selective; prerequisites: CHEM 2314 or CHEM 1232 with a C- or better)

CHEM 3375 Physical Chemistry (3 Cr.)

The physical chemistry for biological sciences course aims to teach the main concepts in the physical chemistry realm such as thermochemistry, kinetics theory, enzyme kinetics, electrochemistry, and quantum mechanics at both the fundamental chemical level and at the application level as applied to the various biological systems and phenomena. The students gain the fundamental insights of the various covered chemical concepts, but they will also deeply understand the different biological processes at their basic physical and chemical levels. Overall, this course will boost students' understanding of the interface between physical chemistry and the natural sciences. (advanced chemistry selective, STEM selective; prerequisites: CHEM 1106 and MATH 1211 with a C- or better; corequisite: PHYS 3212)

CHEM 3376L Physical Chemistry (1 Cr.)

The Physical chemistry for biological sciences laboratory is designed to train the students to learn the different concepts covered in the lecture, such as thermochemistry, electrochemistry, and quantum mechanics, using computational calculations and hands-on experiments. Students will have the chance to connect theory, through running computational simulations, with actual experimental data, which aids in a deeper understanding of the different concepts. (advanced chemistry selective, STEM selective; corequisite: CHEM 3375)

CHEM 4400 Organic Reaction Mechanisms (3 Cr.)

This course covers modern structural organic chemistry. Molecular orbital theory and reaction mechanisms are introduced and emphasized. (advanced chemistry selective, STEM selective; prerequisites: CHEM 2314 or CHEMv2312 with a C- or better)

COMM 1100 Fundamentals of Public Speaking (3 Cr.)

This course provides students a comprehensive introduction to speech communication both in theory and in practice. Over the course of the semester students will read, hear about, discuss, and practice core concepts of oral communication. They will engage in frequent “presentation” activities ranging from the brief and informal to the researched and refined. Samples of such presentations include answering discussion questions at length in class, facilitating class discussion using active listening, delivering extemporaneous informational presentations, and outlining and delivering the equivalent of a persuasive speech using electronic visual aids. (oral communication general education; prerequisites: none)

COMM 3200 Health Care Communication (3 Cr.)

This course covers the principles and practices of interpersonal communication, public speaking and conflict management with special emphasis on skills needed in the health care field: gathering information from diverse patients, demonstrating empathy, managing difficult, emotion-laden situations and relating effectively with other health care professionals. Emphasis is given to applying communication concepts to real world scenarios. Class meets three hours weekly for lecture, discussion and application. (oral communication general education; prerequisites: PSYC 2210 or SOCI 2210 with a C- or better)

COMM 3300 Intercultural Communication (3 Cr.)

This course serves as an introduction to the basic terms, concepts and theories of intercultural communication. It highlights the dynamics that characterize the life of a culture and the implications of these dynamics for the way we communicate within and across cultures. It attempts to heighten students’ sensitivity to and awareness of their own cultural grounding, as well as that of people who are different from them, and asks them to apply communication strategies to construct more productive and beneficial intercultural outcomes. Emphasis is on connecting theory and practice through the analysis of various texts, films, case studies and out-of-class events. Class meets three hours weekly for lecture, discussion and application. (liberal arts selective, social science selective; prerequisites: PSYC 2210 or SOCI 2210 with a C- or better)

COMM 3310 Communication for Health Behavior Change (3 Cr.)

Students will examine how messages influence people’s perceptions of health concepts and health-related behaviors as well as evaluate the specific communication strategies used to influence perceptions and generate positive behavioral change. Students will be encouraged to examine previously applied communication research and behavior-modification communication strategies used for social change and offer critiques of these strategies. Students will demonstrate applied learning by designing communication strategies and community involvement projects for a specific target audience chosen by the student in conjunction with the instructor. Class meets three hours a week for lecture, discussion, group work and activities applying course material to historical and contemporary examples. (social and behavioral science general education, liberal arts selective, social science selective; prerequisites: PSYC 2210 or SOCI 2210 with a C- or better)

COMM 3320 Introduction to Digital Media (3 Cr.)

This course encourages hands-on familiarity with a variety of digital media, explores the history of computing, digital media and the internet and discusses ethical consideration and implications of how

that history is told. The first part of the course will focus on developing an understanding of the major theories of digital media, including technological determinism, social determinism and technological affordances. The second part of the course will emphasize effectively analyze digital communication through the use of concepts such as affordance, rhetorical choice and audience selection and will ask students to rigorously interrogate the implications digital media offers for communication today. (liberal arts selective, social science selective; prerequisites: PSYC 2210 or SOCI 2210 with a C- or better)

COMM 3330 Organizational Communication (3 Cr.)

This communication-based social science course examines the complex nature of organizations and how our experiences shape and are shaped by our interactions with these institutions. The first two-thirds of the course introduce the key historical and contemporary theories of organizational communication, including classical, human relations, human resources, systems, cultural, and critical theories. Students will also examine relevant organizational communication processes studied in organizations (e.g., assimilation, change, conflict management, etc.), emphasizing how these processes are studied using different theories. The final third of the course will apply these theories to existing organizational structures and will place the student in the role of organizational consultant. (liberal arts selective, social science selective; prerequisites: PSYC 2210 or SOCI 2210 with a C- or better)

COMP 1100 Internet History, Tech and Security (3 Cr.)

The impact of technology and networks on our lives, culture, and society continues to increase. The very fact that you can take this course from anywhere in the world requires a technological infrastructure that was designed, engineered, and built over the past sixty years. To function in an information-centric world, we need to understand the workings of network technology. This course will open up the Internet and show you how it was created, who created it, and how it works. Along the way we will meet many of the innovators who developed the Internet and Web technologies that we use today. After this course you will not take the Internet and Web for granted. You will be better informed about important technological issues currently facing society. You will realize that the Internet and Web are spaces for innovation, and you will get a better understanding of how you might fit into that innovation. If you get excited about the material in this course, it is a great lead-in to taking a course in Web design, Web development, programming, or even network administration. At a minimum, you will be a much wiser network citizen. (prerequisite: none)

COMP 1101 Programming for Everyone I (3 Cr.)

This course, built in collaboration with Google, provides a gentle, but thorough, introduction to programming using Python. You will learn the core concepts and techniques needed to create programs and perform basic data analysis. By the end of this course, you'll be ready to pursue further study in computer science and unlock more advanced programming courses. This online class has optional live sessions. (prerequisite: none)

COMP 1102 Programming for Everyone II (3 Cr.)

This course teaches students about the fundamentals of data access, data management, and expands upon the topics learned in CSC II. In the first half of the course, students will learn how to leverage their Python skills to treat the internet as a source of data. Students will work with HTML, XML and JSON data

formats in Python. The second half of the course introduces students to the fundamentals of Structured Query Language (SQL) and database design as part of a multi-step data gathering, analysis and processing effort. As part of the course, students will build web crawlers and multi-step data gathering and visualization processes. (prerequisite: COMP 1101 with a C- or better)

DATA 1101 Foundations of Data Analytics I (3 Cr.)

In an increasingly data-driven world, everyone should be able to understand the numbers that govern our lives. Whether or not you want to work as a data analyst, being “data literate” will help you in your chosen field. In this course, you’ll learn the core concepts of inference and data analysis by working with real data. By the end of the term, you’ll be able to analyze large datasets and present your results. This online class has optional live sessions. (prerequisite: none)

DATA 1102 Foundations of Data Analytics II (3 Cr.)

Foundations of Data Analytics II is based on UC Berkeley’s Data 8 class. In an increasingly data-driven world, everyone should be able to understand the numbers that govern so much of our lives. Students will learn the core concepts of inference, data analysis and computing by working with real economic, social and geographic data. This course will also provide students with an introduction to the applications of Data Analytics in the workforce, with specific attention paid to the role of the Data Scientist or Analyst, and to the application of Big Data. This course is intended as a continuation of Foundations of Data Analytics I. (prerequisite: DATA 1101 with a C- or better)

E

ECON 3200 Microeconomics with a Health Care Emphasis (3 Cr.)

This course will acquaint the student with the principles and methods of microeconomics and the skills needed to critically apply economic principles to health care decision-making for health systems, health care providers and patients. The course includes both microeconomic and macroeconomic perspectives, including the individual and firm level to the market level, as well as a macroeconomic view of public policy affecting health care. Special attention is given to the extrapolation of basic concepts to understand public policy initiatives and emerging health care trends. This course includes lecture, active learning exercises and class discussion. (social and behavioral science general education; prerequisites: none)

F

FILM 3300 Mental Health and Illness in Film (3 Cr.)

This course focuses on the ways that film has reflected, informed and shaped our understanding of mental health and illness as identifiable states and conditions. Students will view and analyze a wide range of films to develop critical insights into the popular conception of mental health and illness as they have developed over time to inform current discourse. The course helps students learn to connect the ideas of health and illness to the larger aesthetic, cultural and philosophical contexts that film inevitably engages. (humanities and fine arts general education, liberal arts selective, writing intensive; prerequisites: WRIT 1102 with a C- or better)

GLBH 1100 Introduction to Global Health (3 Cr.)

This course introduces students to the structures and core issues related to global health including diversity, human rights and ethics; environmental, social and economic determinants of health; global epidemiology of disease; health systems and health professionals; and global health governance. This course will serve as a foundation for students enrolled in the global health program. (social and behavioral science general education; prerequisites: none)

GLBH 1110 History of Public Health (3 Cr.)

Covid-19 has thrust Public Health into the spotlight, but the domain of public health includes many critical issues, including mental health, obesity, and gun violence. From the first quarantines to the modern movement towards universal health care, public health has fundamentally shaped societies. In this course, you'll learn the role of the state in public health, the importance of public health, and how it's provided and practiced. This online class has optional live sessions. (prerequisite: none)

GLBH 5501 Principles and Critical Issues in Global Health (3 Cr.)

This course exposes students to foundational principles, current trends and hot topics in global health including morbidity and mortality of infectious and noncommunicable diseases, ethics, health and environmental disparities, key players and social justice across high-, middle- and low-income countries. Students will gain knowledge and apply it to real-world problems. (restrictions: G1 or G2 status in graduate program or program director approval)

GLBH 5502 Determinants of Health and Health Equity (3 Cr.)

This course explores determinates of health and health equity, human rights, and social justice. Students will develop an understanding of historical, personal, social, economic, and environmental factors that influence determinants of health, access to health and health outcomes. Students will understand the historical context and current trends as well as the policies, frameworks and interventions put in place to address these issues. (restrictions: G1 or G2 status in graduate program or program director approval)

GLBH 5503 Comparative Health Systems and Global Health Policy (3 Cr.)

This course will compare health systems in high-, middle-, and low-income countries with respect to health care delivery, health systems administration and economics. Students will examine how sociocultural, economic and political landscape impact health delivery while studying the quality and availability of health as influenced by public and private sectors, multinational agreements, and multicultural organizations. This course will also look at workforce implications based on health policy. (restrictions: G1 or G2 status in graduate program or program director approval)

GLBH 5505 Global Health and Equity Case Series and Seminar I (1 Cr.)

In seminar, students develop and exchange scholarly information in a small group setting, including presentations by students, faculty members, and visiting experts; or discussions on scholarly activities

such as literature reviews, research proposals, grants, research methods, program design and assessment. Students will be invited to present topics and prepare student-led sessions. (restrictions: G1 or G2 status in graduate program or program director approval)

GLBH 5506 Global Health and Equity Case Series and Seminar II (1 Cr.)

In seminar, students develop and exchange scholarly information in a small group setting, including presentations by students, faculty members, and visiting experts; or discussions on scholarly activities such as literature reviews, research proposals, grants, research methods, program design and assessment. Students will be invited to present topics and prepare student-led sessions. (restrictions: G1 or G2 status in graduate program or program director approval)

GLBH 5601 Illness, Identity, and Inequality in U.S. History (3 Cr.)

This course examines the historical role that social identity has played in mediating the delivery and experience of health care in the US. It traces changes over time in the experience of American patients whose identities have been filtered through the social categories of gender, race/ethnicity, sexuality, class, and religion. (restrictions: G1 or G2 status in graduate program or program director approval)

GLBH 5602 Leadership and Change (3 Cr.)

This course enables students to engage in the advanced study of leadership and change. Theory, skill building, and application allow students to learn strategies for managing planned organizational change. (restrictions: G1 or G2 status in graduate program or program director approval)

GLBH 5603 Introduction to Pharmacoeconomics and Outcomes Research (3 Cr.)

This course is designed to acquaint the student with the principles and methods of pharmacoeconomics, the skills to critically evaluate pharmacoeconomic literature, the applications to healthcare decision-making, and the process of designing a proposal for conducting a pharmacoeconomic study. This course will help students understand how pharmacists, healthcare professionals, and outcomes researchers can have an important impact on the decision-making processes of health care institutions, managed care organizations, pharmaceutical companies, and governmental agencies by providing an analysis of the cost of drug therapy and related services. (restrictions: G1 or G2 status in graduate program or program director approval)

GLBH 5604 HIV/AIDS and Society (3 Cr.)

Students will examine the history of HIV/AIDS, a devastating pandemic that emerged in the 20th Century. Taking an international approach, the course will not only trace the ways in which this lentivirus triggered a worldwide crisis, it will also probe individual societies to confront barriers to optimal health care for their own citizens and innovate new efforts to prevent and treat the disease in the Global South. (restrictions: G1 or G2 status in graduate program or program director approval)

GLBH 5700 Research Methods Fundamentals (3 Cr.)

This course is designed to assist global health professionals' understanding of the research process required to arrive at scientifically valid data. The course integrates inferential statistics and research methods pertinent to collection, aggregation, analysis, and interpretation of data that is necessary to support a rational and ethical decision-making process. Students will learn design and develop an independent research proposal. (restrictions: G1 or G2 status in graduate program or program director approval)

GLBH 5701 Epidemiology (3 Cr.)

This course explores the principles and methods of epidemiology. Students will learn the general concepts, analytic methods and applications of epidemiology and pharmacoepidemiology. The course will cover topics such as causal inference, bias and effect modification; statistical methods to analyze and interpret data from various epidemiological study designs; and epidemiological techniques for designing, implementing, analyzing and interpreting pharmacoepidemiology studies. This course will help students to apply the epidemiologic concepts and techniques to evaluate epidemiological studies, formulate unique research questions and opportunities, and analyze epidemiological data. (restrictions: G1 or G2 status in graduate program or program director approval)

H

HCAM 2200 Health Systems of the US (3 Cr.)

This course is your introduction to the US healthcare system and the practice of healthcare management. You'll learn how the healthcare industry functions and explore the roles and impacts of its various stakeholders and organizations. Additionally, you'll have the opportunity to compare and contrast the US healthcare system with that of other nations and evaluate its performance. By the end of this course, you'll know the ins and outs of the American healthcare system and be prepared for further study in healthcare administration. (prerequisites: none)

HIST 2100 James Baldwin's America, 1917 to 1984 (3 Cr.)

Using both Baldwin's essays, and the writings central to postwar social movements, this course will touch on the feminist and the womanist movements, the free speech and peace movements on college campuses, and the gay rights movement, as well as the Civil Rights movement, as outgrowths from Baldwin's perceptions. The course will also address the responses against them, typified by Phyllis Schlafly's "Silent Majority," by Dinesh D'Souza and the "Dartmouth Review," and by the Reagan coalition. While we won't propose to resolve the breach these various points represent, we hope to engender Baldwin's tenet that informal conversation always beats formal confrontation. (humanities and fine arts general education; prerequisite: "an open mind")

HIST 2201 Global Heritage I: The Ancient World (3 Cr.)

This course is an interdisciplinary, history-based humanities course which uses a historical framework to introduce students to the best that human beings have created, written and achieved from the disparate creation stories through the Age of Exploration with an emphasis on artistic, philosophical and technological achievements. This sequence of courses uses the humanities and history as vehicles for students to practice and refine their critical thinking, writing and global learning skills while enhancing

their ability to become global thinkers and citizens. (humanities and fine arts general education; prerequisites: none)

HIST 2202 Global Heritage II: The Medieval and Early Modern World (3 Cr.)

The next course in this interdisciplinary, history-based humanities sequence expands upon the foundations, key concepts and abilities introduced in Global Heritage I. The scope of this course will span the later Middle Ages through the Age of Revolutions and will explore the consequences of key global events that have informed the modern world. Core concepts explored in this course include the consequences of increased inter-hemispheric interaction and the emergence of new perspectives, populations and technology. (humanities and fine arts general education; prerequisites: WRIT 1102 with a C- or better)

HIST 3300 Art of Autobiography (3 Cr.)

This humanities course uses various first-person accounts to flesh out a single, larger event, such as America's pursuit and use of the atomic bomb during World War II. As part of the course, students will produce a research paper that could be used as part of a graduate school application. (liberal arts selective, writing intensive; prerequisites: WRIT 1102 with a C- or better)

HIST 3303 Global Heritage III: The Modern World (3 Cr.)

This history-based humanity selective course represents the capstone course of this sequence and ranges from the Age of Revolutions to 9/11 and the global war on terror. This course explores the developing relationships between nation-states, aspiring nationalists, transnational actors, overarching global forces and trends and competing new worldviews regarding the shape and direction of an increasingly connected world. (writing intensive; prerequisites: WRIT 1102 with a C- or better)

HIST 3310 Science and The Supernatural (3 Cr.)

This course examines the epistemologies and assumptions that serve as the lenses for scientific and supernatural discourses in both western and non-western contexts. Topics covered include parapsychology, ghosts, aliens, cryptids, secret societies, paranormal geographies and "alternative" medicine. In uncovering the deep structures that undergird scientific and supernatural rationalities, students will develop an awareness of their own cultural identities and biases, as well as those of others. Students will write about paranormal topics from within the specific rationality of modern science. They will practice writing for other scientists according to scientific conventions and translating scientific concepts for popular audiences. (liberal arts selective, writing intensive; prerequisites: HIST 2202)

HIST 3320 Global Public Health (3 Cr.)

This course introduces the problem of disease and strategies of public health in the colonial and postcolonial world from the 1880s to the present. This course will focus on the relationship between medical knowledge and the political, economic and intellectual foundations of colonialism, with geographical emphasis upon developments in Latin America and Africa. Students will examine the emergence of "tropical disease" concepts, the rise of international health organizations and the absolutist models of disease eradication forged in colonial and post-colonial contexts. Students will also

investigate whether, and to what extent, we are heir to a uniquely colonial past of public-health thinking and practice. (liberal arts selective, writing intensive; prerequisites: HIST 2202 with a C- or better)

HIST 3340 The Global Pharmacist (3 Cr.)

This interdisciplinary course takes a holistic approach to the human experiences of embodiment, suffering and healing across historical periods, diverse cultures and through the life cycle. Students will become familiar with the biomedical model, which is rooted in modern western biomedical science and practice, and the biocultural model, which comprises the multiple cultural, social, economic and individual forces that shape the culture of healing in and beyond official medicine. (liberal arts selective, writing intensive; prerequisites: HIST 2202)

HIST 3350 Illness, Identity and Inequality in U.S. History (3 Cr.)

This course examines the historical role that social identity has played in mediating the delivery and experience of health care in the U.S. It traces changes over time in the experience of American patients whose identities have been filtered through the social categories of gender, race or ethnicity, sexuality, class and religion. (humanities and fine arts general education or social and behavioral science general education, liberal arts selective, writing intensive; prerequisites: WRIT1102 and SOCI 2210 with a C- or better)

HIST 3360 Good Wives, Witches and Healers: Reclaiming Women's Medicine (3 Cr.)

This history-based humanities course reclaims the history of women as healers and patients from antiquity to the global postmodern and intersectional present. Ancient and medieval understandings of sex difference, the male gaze and the construction of the female body, the patriarchal demonization of midwives and the construction of witchcraft, the transmission of medical knowledge between lay women, clerical orders and the rise of nursing, medicine in colonial New England and on the Plains, the growth of nursing and its suppression by male authorities, the construction of the female patient as hysterical and the power of women in the health professions are discussed in the first two thirds of the class. The last third of the class examines the continued role of women as goodwives, traditional healers and medical professionals in cultures around the globe and beyond the binary. What emerges is a timeless image of women as powerful agents for caring and curing despite all attempts to marginalize the female authority. (liberal arts selective, writing intensive; prerequisites: HIST 2202)

HIST 3370 Global Medicine and Pharmacy: A History (3 Cr.)

This is an upper division writing intensive humanities elective designed to provide you with a greater understanding of the evolution of the medical and pharmacy professions with an emphasis on the development of therapeutic agents and their creators over the millennia. This course will explore selected themes in world medical history that will highlight the scientific, social, and economic development with an emphasis on the American health care system. (liberal arts selective, writing intensive; prerequisites: WRIT 1101 and WRIT 1102 with a C- or better and prior college history coursework recommended)

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IPPE 4110 IPPE AND IPE: Population Health and Health Care Teams (1 Cr.)

This course is designed to introduce students to concepts of the pharmacist's role in population health and interprofessional collaboration through classroom and site activities (prerequisite: Missouri intern license and health requirements) (restrictions: Professional Year 1 status)

IPPE 5123 Introductory Pharmacy Practice Experience: Community Pharmacy (1 Cr.)

This required course introduces students to community pharmacy practice through a supervised three-week full-time experience (120 hours) at an assigned community pharmacy. On-site experiential hours are completed under the supervision of an approved pharmacist preceptor. Student pharmacists will function as part of a pharmacy team for a variety of activities. (prerequisites: BIOL 4100, BIOL 4101, IPPE 4110, MGMT 4100, PHAR 4113, PHAR 4114, PHIM 4110, PHPR 4112, PHRC 4101, PHRC 4123, PHRC 4124L, and PHSC 4101 with a C- or better and PHTD 4012 with a P, completion of all OEE requirements listed in the Experiential Education Guidelines for licensing (Missouri Pharmacy Intern license and license for the state the student is rotating in as appropriate), health requirements (immunizations, PPD, drug test, background check), trainings (HIPAA, blood-borne pathogens, Pharmacy-based Immunization Delivery Certificate Training Program and current Basic Life Support (BLS) Certification).

IPPE 5130 IPPE and IPE: Patient-Based Care and Health Care Teams (1 Cr.)

This course is designed to introduce students to concepts of the pharmacist's role in primary care and interprofessional collaboration through classroom and off-campus site activities (prerequisites: IPPE 4110, and IPPE 5123 with a C- or better and PHTD 4012 with a P, Missouri intern license, health requirements and certifications; corequisites: PHPR 5121 and PHPR 5131)

IPPE 6143 Introductory Pharmacy Practice Experience: Health System Pharmacy (3 Cr.)

This required course introduces students to health system pharmacy practice through a supervised three-week full-time experience (120 hours) at an assigned health system pharmacy. On-site experiential hours are completed under the supervision of an approved pharmacist preceptor. Student pharmacists will function as part of the pharmacy team for a variety of activities. (prerequisites: IPPE 4110, IPPE 5123, IPPE 5130, PHAR 5121, PHAR 5131, PHAR 5142, PHAR 5152, PHIM 5122, PHPR 5132 and PHRC 5132 with a C- or better and PHTD 4012, PHTD 4013, PHTD 5021 and PHTD 5032 with a P, Missouri intern license, health requirements, drug testing requirements, background check requirements, other state's intern and technician license as required if completing outside Missouri, current basic life support certification, and current immunization certification)

IPPE 6150 IPPE and IPE: Transitions of Care and Health Care Teams (1 Cr.)

This required course introduces student pharmacists to the importance of effective transitions of care within and between health care settings. Student pharmacists will complete a total of 20 experiential hours performing transitions of care services in one of four settings (community pharmacy, health system pharmacy, long-term care pharmacy or ambulatory care pharmacy). On-site experiential hours will be completed under the supervision of an approved pharmacist preceptor. Student pharmacists will function as part of the health care team for a variety of activities and will have the opportunity to interact with other health care professionals to emphasize the importance of collaboration at crucial transitions. Student pharmacists will also work with other health profession students in case-based

application activities focused on transitions of care. (prerequisites: IPPE 4110, IPPE 5123, IPPE 5130, PHAR 5121, PHAR 5131, PHAR 5142, PHAR 5152, and PHPR 5132 with a C- or better and PHTD 5021 and PHTD 5032 with a P, along with completion of all health requirements, background check, and licensure requirements including a current Missouri pharmacy intern license, current basic life support certification, and current immunization certification; corequisites: IPPE 6143, PHIM 6131, PHPR 6141 and PHPR 6152)

L

LITR 2210 Masterpieces in Children's Literature (3 Cr.)

This literature elective course focuses on the ways that literature reflects, informs and shapes our understanding of childhood as a distinct stage of human experience. Students will read and write analyses of a wide range of classic and contemporary literary texts for children to develop critical insights into the real and imagined differences between children's and adults' sensibilities, needs and imaginative experiences of nature and society. The course helps students to develop versatile tools for textual analysis and learn to approach literature as a rich record of human consciousness and possibility. (humanities and fine arts general education, literature selective; prerequisites: WRIT 1101 with a C- or better)

LITR 2220 Creative Nonfiction (3 Cr.)

This course focuses on learning to interpret and appreciate narrative nonfiction. The course includes lectures, discussions, readings and writing assignments. This course fulfills the literature requirement. (humanities and fine arts general education, literature selective; prerequisites: WRIT 1102 with a C- or better)

LITR 2230 Literature and Media (3 Cr.)

This course explores the development of literature through four stages of communication development: oral-aural, script, print and electronics. Students will read literary selections from each of these areas and identify how the medium shapes theme, structure and response. (humanities and fine arts general education, literature selective; prerequisites: WRIT 1102 with a C- or better)

LITR 2240 Drama (3 Cr.)

In this course students read, interpret, discuss and write about plays originally written during a range of periods and in a variety of genre forms, but are still included in the traditional literary canon. They do so not only to enjoy the material for its own sake, but also to cultivate the skills of close reading and interpretation, to develop the capacity to infer motivation from behavior, and to derive insights into the personalities in the stories as well as their own sensibilities as they engage vicariously in the emotional life of the fictional heroes and villains, lovers and enemies, characters and caricatures in the plays. The students read and discuss plays, write papers and attend at least one live performance of a play on which they write a review. Coursework also includes writing assignments and examinations on each play, and lots of in-class conversation. (humanities and fine arts general education, literature selective; prerequisites: WRIT 1102 with a C- or better)

LITR 2250 Comics and Mental Illness (3 Cr.)

This 2000 level literature selective introduces students to the academic study of comics through an analysis of comics about mental illness. The course will focus on learning how to read comics and on understanding how comics portray the experiences of those who experience mental illness, those who are doctors, caregivers or friends or family of those with a mental illness, and those in the medical community who treat mentally ill patients. (humanities and fine arts general education, literature selective; prerequisites: WRIT 1101 with a C- or better)

LITR 2251 Global Comics: Home, History, Culture, Displacement (3 Cr.)

Introduces students to the academic study of comics through an analysis of comics about history, culture and displacement. This course focuses on the meanings of “home” and “culture,” and how these meanings shift or are displaced when people are forcibly relocated or come into contact with new cultures. It examines how new homes or cultures may be forged as the result of political and social upheaval, immigration and travel. (humanities and fine arts general education, literature selective; prerequisites: WRIT 1101 with a C- or better)

LITR 3300 Mental Health and Illness in Literature (3 Cr.)

This course focuses on the ways that literature reflects, informs and shapes our understanding of mental health and illness as identifiable states and conditions. Students will read and write analyses of a wide range of literary texts to develop critical insights into the concepts of mental health and illness as they have developed over time to inform current discourse. The course helps students learn to connect the ideas of health and illness to the larger aesthetic, cultural and philosophical contexts that literature inevitably engages. (humanities and fine arts general education, liberal arts selective, literature selective, writing intensive; prerequisites: WRIT 1102 with a C- or better)

LITR 3310 Comics and Conflict (3 Cr.)

This writing intensive course analyzes the portrayal of cultural conflict in comics. Students will learn to critically reflect on conflict and violence in a number of cultural and social contexts and will learn to read both verbal and visual texts critically. (humanities and fine arts general education, liberal arts selective, literature selective, writing intensive; prerequisites: WRIT 1102 with a C- or better; LITR 22XX with a C- or better preferred)

M

MATH 1000 College Algebra (3 Cr.)

This course will use graphical, numerical and symbolic representations to review and reinforce the algebra skills necessary for success in precalculus, calculus and other future courses. Topics include: linear equations and inequalities; functions, graphs and applications; polynomials and polynomial functions; rational expressions, equations and functions; radical expressions, equations and functions; quadratic equations; and exponential functions and logarithmic functions. Format: lecture and discussion. (mathematical sciences general education; prerequisites: none (restrictions: no credit awarded if credit already received for MATH 1100 or MATH 1110))

MATH 1005 College Algebra with Integrated Review (4 Cr.)

This course will use graphical, numerical, and symbolic representations to review and reinforce the algebra skills necessary for success in Precalculus, Calculus and other future courses. Topics include linear equations, linear inequalities, functions, graphs, applications, polynomials, polynomial functions, rational expressions, rational equations, rational functions, radical expressions, radical equations, radical functions, quadratic equations, exponential functions and logarithmic functions. The format is lecture, discussion and recitation lab. (mathematical sciences general education; prerequisites: none (restrictions: no credit awarded if credit already received for MATH 1100 or MATH 1110)

MATH 1100 Precalculus for Health Professionals (3 Cr.)

This course will use graphical, numerical and symbolic representations to investigate and apply the basic properties of linear, quadratic, polynomial, logarithmic, exponential, rational and trigonometric functions. Students will also refresh the algebra skills necessary for success in calculus and other future courses. Format: lecture and discussion. (mathematical sciences general education; prerequisites: MATH 1000 with a grade of C- or better, or a minimum score of 24 on the MACT, or instructor approval) (restrictions: no credit awarded if credit already received for MATH 1110)

MATH 1105 Introduction to Statistics (3 Cr.)

The following concepts and statistical techniques are included: organization, presentation and description of quantitative data (graphical methods and numerical methods); probability and distributions; statistical inferences (interval estimation and hypothesis testing); and correlation and regression. (mathematical sciences general education; prerequisites: none) (restrictions: cannot also receive credit for MATH 1120) (does not meet the pharmacy program Statistics prerequisite)

MATH 1110 Applied Calculus for Health Professionals (3 Cr.)

This course will cover the basic concepts of analytic geometry and calculus with a major emphasis on both differential and integral calculus and their applications to the health professions. Format: lecture and discussion. (mathematical sciences general education; prerequisites: MATH 1100 with a grade of C- or better, or a minimum score of 27 on the MACT, or instructor approval)

MATH 1120 Statistics for the Health Sciences (3 Cr.)

This course introduces fundamental concepts and methods of statistics with emphasis on the application of statistical principles and methods to the assessment and interpretation of statistical evidence. It includes an introduction to descriptive statistics, basic probability theory, statistical estimation, hypothesis testing and regression. Statistical analysis using a statistical software package is introduced. Format: lecture and discussion. (mathematical sciences general education; prerequisites: MATH 1100 with a grade of C- or better, or a minimum score of 27 on the MACT, or instructor approval) (restrictions: cannot also receive credit for MATH 1105)

MATH 1211 Applied Calculus II (3 Cr.)

This course is a continuation of MATH 1110. Topics include: the definition and interpretations of the integral, basic techniques for computing anti-derivatives, an introduction to multi-variable calculus and optimization for functions of several variables, an introduction to differential equations and applications

to chemistry and the health sciences. (STEM selective; prerequisites: MATH 1110 with a grade of C- or better)

MATH 2200 Probability and Advanced Statistics (3 Cr.)

This course is a continuation of Statistics for the Health Sciences. The course will include an extension of probability topics such as Bayes Theorem, risk, odds, and counting principles. Advanced inferential statistics topics will include inferences from two samples, goodness-of-fit, contingency tables, analysis of variance, and nonparametric tests. Healthcare applications will include mortality, fertility, and morbidity rates, life tables and Kaplan-Meier survival analysis. A statistical software package will be used for complex analysis. Format: lecture and discussion. (mathematical sciences general education; prerequisites: MATH 1120 with a grade of C-)

MGMT 4100/MGMT 4400 Public Health Fundamentals in Pharmacy (3 Cr.)

This course provides an overview of public health issues related to pharmacy and the pharmaceutical needs of populations. The scope of the class includes national and global concerns. Topics include pharmacy administration topics within a public health context: social marketing, health care systems, health promotion, disease prevention, epidemiology, ethics, culture, law, health education and disaster management. The class format includes the review of current literature and group development of public health research proposals. (prerequisites: none) (restrictions: Professional Year 1 or senior year status in declared pharmaceutical sciences major)

MGMT 5100 Pharmacy Leadership and Change (3 Cr.)

This course is an introduction to the study of organizational behavior within the context of the health care system. Students who successfully complete this course will understand how organizational behavior theory can be used to improve their personal effectiveness and the delivery of patient-centered care. Current behavioral science topics, including perception, personality, cultural sensitivity, emotional intelligence, motivation, leadership, group behavior and organizational change are examined to develop strategies for improving effectiveness at the personal, group and organizational level. (prerequisites: none) (restrictions: Professional Year 1 status)

MGMT 5200 Health Systems Management: Financial and Economic Aspects (4 Cr.)

This course acquaints students with the basic principles of financial and economic analysis applied to health systems, with special emphasis given to community and hospital pharmacies. Topics include: financial analysis, inventory control, breakeven analysis, cost allocations, reimbursement, health economics, health insurance, managed health care, pharmacoeconomics and health care reform. Case studies encourage active learning and problem-solving. (prerequisites: none) (restrictions: Professional Year 1 status)

MGMT 6100 Pharmacy Law (2 Cr.)

Pharmacy law is a basic administrative course which is required as a part of the pharmacy curriculum. The primary purpose of this class is to prepare students to take and pass the law portions of their board examinations and state licensure processes. We will examine the nature and scope of the law with focus on how the law impacts and regulates the practice of pharmacy. Students will learn the governmental

framework within which pharmacy is practiced, as well as acquire an understanding of the laws applicable to pharmacists. These legal principles are intended to allow pharmacists to protect the public interest, including their patients' well-being. Students will become prepared to examine and analyze these laws and apply these principles to the daily decision-making in the practice of pharmacy. (prerequisites: none) (restrictions: Professional Year 1 status)

MHUM 3301 Liberal Arts Theory Seminar (3 Cr.)

Junior seminar is a 3-credit course taken in the spring of the junior year by students who seek a stand-alone medical humanities degree. The course provides advanced instruction in the theory and conventions of liberal arts and science research to provide students with the structure and support needed to formulate a project proposal before the end of the semester. Three credits will be earned through weekly participation in the Junior Seminar: Theoretical Foundations, led by the junior seminar course coordinator. Subsequent courses in the seminar series will address methodology and practice largely through individual work with the student's faculty project mentor, which the student should choose by the end of seminar I. (prerequisites: none; restrictions; junior year status in declared medical humanities major)

MHUM 4402 Research Theory Seminar (3 Cr.)

In this course, students work with a faculty mentor to explore the theory and methods employed by their chosen discipline, engage in the refinement of their project proposal, implement a research plan appropriate to that discipline, conduct a literature review, and gather data or other forms of content information, as well as determine the final form the project will take. Students attend regular project review meetings with their faculty mentor and other members of their cohort in the successful completion of agreed upon theory and methods learning experiences as well as the completion of project objectives. These will vary according to the content area—literature, social science, or history--and nature of the research project. (prerequisites: MHUM 3301 and instructor approval of appropriate content area)

MUSI 1100 Music Appreciation (3 Cr.)

Music is integral to the human experience, but its ubiquity in modern society has relegated melodious sounds to the background of our perception, which can lead to a deficiency in true appreciation for this creative and expressive medium. This humanities and fine arts elective serves as an introduction to music, providing students with knowledge and skills that can enhance the appreciation of all types of music. Of particular import is an emphasis on active, critical listening. Using student- and instructor-selected recordings, students will learn how to aurally identify musical and structural elements. Comparison to popular genres will help students develop a deeper understanding of, and appreciation for, art music in the Western canon, as well as music from around the world. (humanities and fine arts general education; prerequisites: none)

MUSI 1221-1222 Concert Band (0-1 Cr.)

The University's concert band is a performing instrumental ensemble open to students, faculty and staff who enjoy making music. The goals of the course include improving instrumental performance technique and musicianship and gaining exposure to a wide variety of repertoire ranging from the Renaissance through modern music. This is a class participation and performance-oriented course in

which we continuously strive for our highest possible musical aesthetic. Previous instrumental music experience, as well as the ability to read music, is required. Members must provide their own instruments. (humanities and fine arts general education) (restriction: may only meet a maximum of 3 credit hours of general education requirements-no maximum on total credits earned))

MUSI 1231-1232 Royal Chorale (0-1 Cr.)

The Royal Chorale is a performing vocal ensemble open to students, faculty and staff who enjoy singing. The goals of the course include improving choral vocal technique and gaining exposure to a wide variety of repertoire ranging from the Renaissance through modern music. This is a class participation and performance-oriented course in which we continuously strive for our highest possible musical aesthetic. Previous music experience is preferred, but not required. (humanities and fine arts general education) (restriction: may only meet a maximum of 3 credit hours of general education requirements-no maximum on total credits earned))

MUSI 1242 Applied Music: Music Lessons (1 Cr.)

Applied-lesson study provides a one-on-one opportunity for students who would like to receive private music instruction. The goals of these lessons are to enhance the student's technical, musical and performance abilities within the context of individual practice, including but not limited to technical studies, individual listening and repertoire appropriate to the level and needs of that student. Some previous music experience and a basic level of skill—as determined by the instructor—is expected. Students should have had some experience with the basics of musical notation. Concurrent participation in an appropriate University music ensemble and permission of the instructor is required. (humanities and fine arts general education) (restriction: may only meet a maximum of 3 credit hours of general education requirements-no maximum on total credits earned))

MUSI 3310 Music and the Brain (3 Cr.)

This course serves as an introduction into the areas of music psychology and music therapy, with an emphasis on the cognitive neuroscience of music. Students will study the theories on the origin of music as aspects of human behavior, the physics of sound, the human perception of music, the connection of music and emotion and the effect of music on the brain. Research articles from peer reviewed journals will supplement course materials to help students form objective viewpoints on various topics in the aforementioned fields of study. (social and behavioral science general education, liberal arts selective, social science selective; prerequisites: PSYC 2210 with a C- or better)

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PGEL 4000 Advanced Histology (3 Cr.)

The focus of this course is to use a systemic approach to learn and understand the details of histology. Histologists believe that the microarchitecture of tissues is the foundation on which physiology and pathophysiology are built. Topics to be studied include the specialization of cells and intercellular connections, the classification of the histological categories, the microarchitecture of tissues within organs, and the functional and structural interrelationship of the tissues. References to clinical evaluations made using pathology of tissues will be incorporated into the content while studying normal

tissue structure. Format: lecture and laboratory. (professional elective; prerequisites: none)
(restrictions: Professional Year 1 status)

PGEL 4001 Introduction to Data Science (3 Cr.)

In this introductory course, students will learn fundamental aspects of computer programming necessary for conducting scientific data analysis and research. By the end of the course students will be able to use these tools to import data into R, perform analysis on that data, and export the results to graphs, text files and databases. By learning how to get the computer to do their work for them, students will be able to do more science faster. The course will be taught using R and SQLite, but the concepts learned will easily apply to all programming languages and database management systems. No background in programming or databases is required. (professional elective; prerequisites: none)
(restrictions: Professional Year 1 status)

PGEL 4002 Pathophysiology (3 Cr.)

This course provides students with a basic understanding of factors that contribute to the occurrence of various diseases from the organismic level to the sub-cellular; and how those diseases may be treated by clinical professionals. Students will learn how to recognize the signs and symptoms of diseases that may be found in a health record as well as sub-cellular markers and laboratory and diagnostic tests that may be used to identify disease conditions. (professional elective; prerequisites: none) (restrictions: Professional Year 1 status)

PGEL 4003 Immunology (1 Cr.)

The focus of this course is to further expand the students' knowledge of the cellular, molecular and biochemical aspects of the innate and adaptive immune systems. Immunological processes as they apply to methodologies and essays will be discussed. This course must be taken concurrently with BIOL 4100 (professional elective; corequisites: BIOL 4100)

PGEL 4004 Public Health Microbiology (3 Cr.)

In this course we will review some of the historical highlights of human and microbe interactions in health and disease from food production and preservation, to the development of the concept of contagion and the global impact of infectious disease in human history (smallpox, plague, cholera, malaria, typhus, influenza, tuberculosis, polio, AIDS, Ebola etc.). We will look at the driving forces behind the development of public health projects as a product of the industrial revolution (drinking water quality, waste treatment, industrial food production and delivery from the farm to the table). The discovery, development and widespread use and misuse of antimicrobials and their impact on the maintenance and treatment of human health and disease. The role of vaccines in the maintenance of human health primarily by prevention of disease will also be discussed. (professional elective; prerequisites: none) (restrictions: Professional Year 1 status)

PGEL 4005 Virology (3 Cr.)

The course will provide an overview of medically relevant virus families, their mechanisms of replication, transmission and establishment of viral infectious disease. Prevention and treatment of viral diseases, as well as antiviral immunity with an emphasis on virus-host interactions as a key to understanding the

diversity of viruses and viral diseases. (professional elective; prerequisites: none) (restrictions: Professional Year 1 status)

PGEL 4006 Molecular Biology/Genetics Lab (1 Cr.)

This course is a dedicated, stand-alone lab course. Students will use a combination of wet-lab activities in conjunction with computer-simulated experiments to understand how the techniques and theories of cellular and molecular biology are applied to answer scientific questions. Methods include micropipette technique, PCR primer design, PCR reactions, bacterial transformation, gel electrophoresis, and sequence analysis. (professional elective; corequisite: BIOL 4201)

PGEL 4100 Nutrition for Pharmacists (3 Cr.)

A lecture and discussion elective, this course will provide students with a background in general nutrition that will inform them about the role of nutrition and good health. This course will focus on the positive and negative effects that various types of food choices have on health. This course does not include clinical nutrition but should provide sufficient background information to foster comprehension of the role of nutrition in managing disease states when this material is taught in subsequent pharmacy courses. After successfully completing this course, students should be able to analyze a diet to determine its nutritional merit, evaluate their own diet for strengths and weaknesses, advise others on the components of a good diet, demonstrate the connections between health and disease and diet, evaluate the quality of nutrition information available in the media, understand the factors that influence dietary choices, and understand the long term consequences of our current unsustainable food production methods. (professional elective, writing emphasis; prerequisites: none) (restrictions: Professional Year 1 status)

PGEL 4101 Illness, Identity and Inequality in U.S. History (3 Cr.)

This course examines the historical role that social identity has played in mediating the delivery and experience of health care in the U.S. It traces changes over time in the experience of American patients whose identities have been filtered through the social categories of gender, race or ethnicity, sexuality, class and religion. (professional elective, writing emphasis; prerequisites: none) (restrictions: Professional Year 1 status)

PHAR 4113 Integrated Pharmacotherapy: Introduction to the Pharmacists' Patient Care Process (1 Cr.)

This is the first course in the Integrated Pharmacotherapy course series which will provide the foundation for subsequent courses in the series to promote optimal pharmacotherapy in individual patients and health of the general population. The focus of this course will be to introduce and apply an understanding of each step of the Pharmacists' Patient Care Process. (prerequisites: PHRC 4101 and PHSC 4101 with a C- or better; corequisites: PHPR4112) (restrictions: Professional Year 1 status)

PHAR 4114 Integrated Pharmacotherapy: Self-Care/Dermatology (3 Cr.)

This Professional Year 1 course builds upon concepts that were introduced in the IP: Introduction to the Pharmacists' Patient Care Process course. Themes of this course include health and wellness, principles of self-care, and appropriate patient-centered triage. Students integrate medicinal chemistry, pharmacology, pathophysiology, and therapeutics in management of patients with musculoskeletal pain

and dermatologic conditions. (prerequisites: BIOL 4101, PHRC 4101 and PHSC 4101 with a C- or better; corequisites: BIOL 4100 and PHPR 4112) (restrictions: Professional Year 1 status)

PHAR 5121 Integrated Pharmacotherapy: Cardiology (5 Cr.)

This course is designed to prepare the student to care for patients with cardiovascular disease by integrating pathophysiology, pharmacology, medicinal chemistry and therapeutics. Cardiovascular disease topics include hypertension, hyperlipidemia, peripheral artery disease, dysrhythmias, stroke, coronary heart disease, heart failure and thromboembolism. (prerequisites: BIOL 4100, BIOL 4101, BIOL 4200, PHAR 4113, PHAR 4114, PHRC 4101, and PHSC 4101 with a C- or better; corequisites: PHPR 5121)

PHAR 5131 Integrated Pharmacotherapy: Pulmonology (2 Cr.)

The pulmonary module is the third in a series of 12 integrated pharmacotherapy modules that is designed for pharmacy students to develop a broad understanding of pathophysiology, pharmacology, medicinal chemistry, clinical pharmacokinetic and pharmacotherapy in major areas of pulmonary disease states. (prerequisites: BIOL 4100, BIOL 4101, BIOL 4200, PHAR 4113, PHAR 4114, PHRC 4101, and PHSC 4101 with a C- or better; corequisites: PHPR 5121)

PHAR 5142 Integrated Pharmacotherapy: Endocrinology (3 Cr.)

The endocrinology course is the fourth in a series of 12 integrated pharmacotherapy courses that is designed for student pharmacists to develop a broad understanding of pathophysiology, pharmacology, medicinal chemistry, clinical pharmacokinetics and pharmacotherapy in major areas of endocrinology. This course is a three-credit hour course in the first half of the spring semester of Professional Year 2. This course focuses on the care of patients with diabetes mellitus and other common endocrine disorders. It prepares students to serve as responsible, professional, efficient and effective providers of drug information to health care providers, patients and their caregivers. This team taught, interdisciplinary course provides students with the opportunity to learn and apply concepts using a problem-based approach with emphasis on the integration and application of fundamental principles to specific clinical situations. (prerequisites: BIOL 4100, BIOL 4101, BIOL 4200, PHAR 5121, PHAR 5131, PHRC 4101, and PHSC 4101 with a C- or better; corequisites: PHPR 5132)

PHAR 5152 Integrated Pharmacotherapy: Nephrology (3 Cr.)

This course prepares students to serve as responsible, professional, efficient and effective care providers to patients with renal disorders and related conditions at an intermediate level. It integrates the pharmacology and medicinal chemistry of relevant medications with the pathophysiology and therapeutics of renal diseases and related conditions. Students will have opportunities to expand their knowledge, skills, attitudes, values and habits and practice the abilities needed to provide evidence-based, patient-centered care. (prerequisites: BIOL 4100, BIOL 4101, BIOL 4200, PHAR 5121, PHAR 5131, PHRC 4101, and PHSC 4101 with a C- or better; corequisites: PHPR 5132)

PHAR 6191 Integrated Pharmacotherapy: GI and Liver (2 Cr.)

This Professional Year 3 course prepares students to serve as responsible, professional, efficient and effective care providers to patients with common GI/liver disorders. The IP-GI/liver course is one in a series of 12 integrated pharmacotherapy courses that is designed for student pharmacists to develop a

broad understanding of pathophysiology, pharmacology, medicinal chemistry, clinical pharmacokinetic and pharmacotherapy in major areas of GI/liver. (prerequisites: BIOL 4100, BIOL 4101, BIOL 4200, PHAR 5142, PHAR 5152, PHRC 4101, and PHSC 4101 with a C- or better; corequisites: PHPR 6141)

PHAR 6202 Integrated Pharmacotherapy: Neurology and Psychiatry (5 Cr.)

This Professional Year 3 course prepares students to serve as responsible, professional, efficient and effective care providers to patients with common neurology and psychiatry disorders. This neurology and psychiatry course is the tenth in a series of 11 integrated pharmacotherapy courses that is designed for student pharmacists to develop a broad understanding of pathophysiology, pharmacology, medicinal chemistry, clinical pharmacokinetic and pharmacotherapy in major areas of neurology and psychiatry. (prerequisites: PHAR 6191, PHAR 6261 and PHAR 6281, with a C- or better; corequisites: PHPR 6152)

PHAR 6261 Integrated Pharmacotherapy: Infectious Diseases (5 Cr.)

This Professional Year 3 course prepares students to serve as responsible, professional, efficient and effective care providers to patients with common infectious diseases. This course is one in a series integrated pharmacotherapy courses that is designed for student pharmacists to develop a broad understanding of pathophysiology, pharmacology, medicinal chemistry, clinical pharmacokinetic and pharmacotherapy in major areas of infectious disease (prerequisites: PHAR 5142, PHAR 5152, and PHRC 5131 with a C- or better; corequisites: PHPR 6141)

PHAR 6281 Integrated Pharmacotherapy: Hematology, Oncology and Immunology (3 Cr.)

This course series emphasizes integrating principles of pathophysiology, pharmacology, medicinal chemistry, and pharmacotherapeutics (including self-care and pharmacogenomics) in the evidence-based and patient-specific treatment of hematology/oncology/ immunology. Practice management principles will also be integrated. Student pharmacists will practice patient- centered care as described in the pharmacists' patient care process model articulated by the Joint Commission of Pharmacy Practitioners as depicted below. Student pharmacists will hone knowledge, skills, and attitudes/ values/habits related to collecting and assessing patient data; performing comprehensive patient and disease assessment; developing, implementing, interpreting, and evaluating care plans; and providing ongoing coordinated or transitional care services in the area of hematology, oncology and immunology as appropriate. (prerequisites: PHAR 5142, PHAR 5152, and PHRC 5131 with a C- or better; corequisites: PHPR 6141)

PHAR 6322 Integrated Pharmacotherapy: Special Populations (4 Cr.)

This Professional Year 3 course prepares students to serve as responsible, professional, efficient and effective care providers to critically ill, pediatric, geriatric and women's health patients. Integrated pharmacotherapy: special populations is one in a series of 10 integrated pharmacotherapy courses that is designed for student pharmacists to develop a broad understanding of pathophysiology, pharmacology, medicinal chemistry, clinical pharmacokinetics and pharmacotherapy in common areas for these populations and learn how to identify, utilize and interpret appropriate resources in the care of these populations. (prerequisites: PHAR 6191, PHAR 6261, PHAR 6281 with a C- or better; corequisites: PHPR 6152)

PHED 1100 Fitness and Conditioning (1 Cr.)

This course provides the knowledge and skills to measure and assess one's physical performance. Using this information, students develop a personalized fitness program. (free elective) (restrictions: good physical health and a signed waiver)

PHED 1110 Leadership in Collegiate Athletics (1 Cr.)

Intercollegiate athletic participation enhances the education and development of students through competitive sports. Competitive sports are consistent with the philosophy, mission and goals of the University. Those actively involved in intercollegiate sports activities acquire principles of sportsmanship and learn fair play, honesty and integrity from amateur athletic competition. In addition, visibility of student-athletes presents an opportunity to demonstrate character development. Designing and leading a team service project enables students to demonstrate servant leadership, teamwork, responsibility, respect and integrity. Benefits of course related work extend to nonparticipating students, faculty, staff, alumni and the community. (restrictions: must be a member in good standing on a varsity roster)

PHIL 1100 Introduction to Ethics (3 Cr.)

This course introduces students to foundations and methods for making ethical decisions, particularly in the various professional environments in health care. Students will explore both the ethics of character (the values and virtues required of a professional) and the ethics of action (making decisions regarding the best course of action when confronted by ethical conflicts). (humanities and fine arts general education; prerequisites: none)

PHIM 4110/PHIM 4300 Information Mastery I: Evidence-Based Medicine and Informatics (2 Cr.)

This Professional Year 1 course provides opportunities for students to learn and practice abilities needed to provide drug information as it relates to the provision of evidence-based, patient- and population-centered care. Students will also be introduced to informatics and will learn about the medication use process including computer applications and the pharmacist's role in that process. This course is the first in a three-course information mastery sequence and serves as a primer on information retrieval, evaluation, interpretation and communication. (prerequisites: none; corequisites: PHSC 4101) (restrictions: Professional Year 1 or senior year status in declared pharmaceutical sciences major)

PHIM 5122 Information Mastery II: Biomedical Literature Evaluation (3 Cr.)

This Professional Year 2 course provides opportunities for students to learn and practice abilities needed to critically analyze and apply relevant health sciences literature to answer specific patient-care and drug-related questions and provide evidence-based, therapeutic recommendations to health care providers or, when appropriate, the public. This course is the second in a three-course information mastery sequence and serves as a primer on literature evaluation, interpretation and communication. (prerequisites: PHIM 4110, PHAR 5121, and PHAR 5131 with a C- or better)

PHIM 6131 Information Mastery III: Clinical Applications (2 Cr.)

This course is the third in the three-course information mastery sequence and serves as a capstone experience for information retrieval, evaluation, interpretation and communication. This Professional Year 3 course provides opportunities for students to learn and practice abilities needed to find and

evaluate health-care-related biomedical literature in order to provide evidence-based responses to patients and other health care providers. Students will also build on informatics concepts from the Information Mastery I course and will learn about the medication use process including computer applications and the pharmacist's role in that process. (prerequisites: PHIM 5122 with a C- or better)

PHPR 4112 Pharmacy Practice Skills Lab I (1 Cr.)

In the first of a sequence of 5 Skills Lab courses, student pharmacists will incorporate and apply content from the Introduction to Pharmacists' Patient Care Process, (IPC) Self-Care/Derm, Pharmacy Calculations, Pharmaceutics, Information Mastery I and the Immunization Certification program to develop important skills to become a patient-centered caregiver and medication use manager. Students will take on the pharmacist role in prescription processing including identifying, preventing, and resolving common prescription processing errors. This course will also introduce and emphasize principles of effective pharmacist-patient oral communication. Student pharmacists will perform brief medication histories, resolve dispensing-related problems, and communicate clear, patient-specific educational messages related to medications and self-care. (prerequisites: PHIM 4110; corequisites: MGMT 4100, PHAR 4113, PHAR 4114, PHRC 4123 and the Immunization Certificate Program) (restrictions: Professional Year 1 status)

PHPR 5121 Pharmacy Practice Skills Lab II (1 Cr.)

This is the second in a sequence of courses in which students will apply content from the integrated pharmacotherapy sequence and develop important, necessary skills to become a patient-centered care giver and medication-use manager. This course will emphasize principles of effective pharmacist-patient oral communication and introduce and emphasize principles of written pharmacist-patient communication and oral and written pharmacist-provider communication. Student pharmacists will perform medication and medical histories, assess and resolve medication-related problems and communicate brief, clear, patient- and provider-specific educational messages related to medications, medication administration, disease-state management, self-care and healthy behaviors. Students will build on their introductory skills in prescription processing and dispensing, be introduced to patient assessment and patient education on disease state management and medication administration, and practice communicating with patients and providers in both written and oral communication activities. Additionally, students will be introduced to sterile compounding and medication safety concepts. (prerequisites: PHRC 4124L with a C- or better; corequisites: PHAR 5121 and PHAR 5131)

PHPR 5132 Pharmacy Practice Skills Lab III (1 Cr.)

This is the third in a sequence of courses. Students will apply content from the integrated pharmacotherapy sequence and develop important, necessary skills to become a patient-centered care giver and medication use manager. This course will introduce and emphasize principles of effective pharmacist-patient oral communication and foundational skills for life-long learning. Student pharmacists will perform duties of prescription processing, comprehensive medication and medical histories, physical assessments and patient education for medications, devices, healthy behavior and self-care as it relates to endocrine and renal disorders. (prerequisites: PHPR 4112 and PHPR 5121 with a C- or better; corequisites: PHAR 5142 and PHAR5152)

PHPR 6141 Pharmacy Practice Skills Lab IV (1 Cr.)

This is the fourth in a sequence of courses in which students will apply content from the Integrated Pharmacotherapy Sequence and develop important, necessary skills to become a patient-centered care giver and medication use manager. This course will emphasize principles of effective pharmacist-provider written communication and introduce and emphasize principles of oral pharmacist-provider communication. Students will build on their introductory skills in prescription processing/dispensing, be introduced to patient assessment and patient education on disease state management, medication administration and practice communicating with providers in both written and oral communication activities. Students will build on their previously introduced skills of sterile compounding and ultimately be assessed on their ability. Students will also practice and be assessed on their ability to process inpatient prescription orders. Students will be expected to apply previous knowledge related to kinetics to clinical scenarios involving dosing and monitoring of antimicrobials. (prerequisites: PHPR 5132 with a C- or better; corequisites: PHAR 6191, PHAR 6261, and PHAR 6281)

PHPR 6152 Pharmacy Practice Skills Lab V (1 Cr.)

This is the fifth in a sequence of courses in which students will apply content from integrated pharmacotherapy sequence and skills lab I-IV to develop important, necessary skills to become a patient-centered care giver and medication use manager. This course will emphasize principles of effective oral communication (patient and provider) and foundational skills for life-long learning. Student pharmacists will perform duties of prescription processing, problem-focused patient interviews and patient education for medications, healthy behavior and self-care as it relates to rheumatologic, neurologic, psychiatric and special population disorders. (prerequisites: PHPR 4112, PHPR 5121, PHPR 5132, and PHPR 6141 with a C- or better; corequisites: PHAR 6202, and PHAR 6322)

PHRC 4101/PHRC 4300 Pharmacy Calculations (1 Cr.)

Pharmacy Calculations is the first course in the Pharmaceutics sequence and provides the foundational abilities required by a pharmacist for preparing, dispensing, or assuring the proper dosing/administration of medications. Students are introduced to the proper interpretation of prescription and are required to interpret problems related to patient situations that require analysis of drug and patient information and performing calculations to determine how to prepare medications, dose medications, dispense or administer medications. As a member of the healthcare team, pharmacists are expected to accurately perform calculations to achieve safe and effective therapeutic outcomes in a variety of pharmacy practice settings. Topics include Concentrations (percent, ratio strength), dosing (metric weights, volume, rates of IV administration, milliequivalents, milliosmoles, alligation, isotonicity, aliquots. Students are also introduced to nutritional calculations including % daily value and nutritional content of IV fluids.(prerequisites: none) (restrictions: Professional Year 1 or senior year status in declared pharmaceutical sciences major)

PHRC 4123/PHRC 4403 Pharmaceutics (4 Cr.)

This course will emphasize the rational design of drug dosage forms including liquid dosage forms, solid dosage forms, semisolid dosage forms, and parenteral dosage forms for different pharmaceutical drug administration routes. Physicochemical concepts such as colligative properties, ionic equilibria, solubility, dissolution, and partitioning will be discussed. The drug and excipients' key chemical and physical properties will be emphasized to design different dosage forms rationally. Within these concepts, examples, and roles of excipients, will be discussed that help identify components of dosage

forms. (prerequisite: PHRC 4101/4300 with a C- or better; (restrictions: Professional Year 1 or senior year status in declared pharmaceutical sciences major)

PHRC 4124L/PHRC 4404L Pharmaceutics Lab (1 Cr.)

This course will introduce the science and practice of nonsterile, extemporaneous compounding and is a hands-on, laboratory-based course. Applying and reinforcing concepts learned in the Pharmacy Calculations and Pharmaceutics courses, students will learn how to interpret prescriptions to compound and prepare and label a variety of dosage forms. These include solutions, suspensions, emulsions, capsules, ointments and suppositories. (prerequisites: PHRC 4101/4300 with a C- or better; corequisite: PHRC 4123/PHRC 4403) (restrictions: Professional Year 1 or senior year status in declared pharmaceutical sciences major)

PHRC 5131 Biopharmaceutics and Pharmacokinetics (3 Cr.)

This course will focus on the study of the rate processes involved in drug absorption and disposition. Instruction includes basic pharmacokinetic principles necessary for understanding individualized dosing regimens as well as a discussion of the effects of the physicochemical properties of the drug, route of administration and dosage form (including traditional and novel drug delivery systems) on drug bioavailability and therapeutic effectiveness. The course provides practical experience in solving problems using pharmacokinetic parameters obtained from actual patient data to design intravascular and extravascular multiple and single dosage regimens. (prerequisites: PHRC 4123 and PHSC 4101 with a C- or better)

PHSC 4101/PHSC 4400 Principles of Drug Action (4 Cr.)

Principles of drug action is a course that introduces students to the general principles that govern pharmacotherapy. This course provides students with the foundational knowledge and skills essential for understanding, applying and evaluating the chemical and pharmacological concepts that ultimately relate to the physicochemical properties of drugs and their pharmacokinetic and pharmacodynamic behaviors. Considerable emphasis is placed upon learning the chemical structures and pharmacological properties, sites and mechanisms of action, metabolism, drug-drug and drug-food interactions, and toxicology of important drug classes as a means for lifelong understanding of present and future pharmacological agents. Special attention is given to the extrapolation of basic concepts to understand existing and potential new mechanisms that might have impact on new drug therapy.

The course expands upon the principles learned in organic chemistry, biochemistry and physiology, and prepares students for integrated pharmacotherapy modules. (advanced biology selective; prerequisites: BIOL 2231, BIOL 3240 and CHEM 3321 with a C- or better) (restrictions: Professional Year 1 or senior year status)

PHTD 4012, 4013, 5021, 5032, 6041, 6052 Top Drugs Proficiency I-V (0 Cr.)

The top drug competency requirement ensures student competency with knowledge of high yield medications in order to adequately prepare them for advanced pharmacy practice experiences, the NAPLEX exam and pharmacy practice. This is a requirement for the Doctor of Pharmacy. Students will not be allowed to progress to IPPEs in the next professional year or APPEs until proficiency is achieved.

PHYS 1100 Astronomy: Mysteries of the Physical Universe (3 Cr.)

This course introduces concepts in astronomy to provide a better understanding of the mysteries of the physical universe. Students will learn how to answer questions such as: Is Pluto a planet? Are we alone in the universe? What happens inside a black hole? Is the universe expanding? What is dark matter? What is dark energy? Students will learn skills such as methods of modeling and communication through writing to explain why these questions don't yet have answers. Learning these skills will help prepare students for any career where the ability to understand and articulate a viewpoint is valued. (natural sciences general education; prerequisites: none)

PHYS 3200 Principles of Physics (4 Cr.)

This course introduces students to selected principles of classical physics, including motion, forces and torques, mechanical energy, fluid pressure and flow, sound, electricity, optics and nuclear physics. The course also helps students use those physical principles to deepen their understanding of biological, chemical and physiological phenomena covered in the student's first two years of the curriculum, and to explore therapeutic strategies that exploit physical phenomena. Format: lecture and laboratory. This course is intended for pharmaceutical sciences health humanities emphasis majors. (prerequisites: MATH 1100, BIOL 1111, and CHEM 1111 with a C- or better)

PHYS 3211 Physics I (4 Cr.)

An algebra-based introduction to classical and fluid mechanics and heat. Topics include kinematics, diffusion, Newton's laws of motion, torque and stability, mechanical energy, calorimetry and heat dissipation, rotational dynamics, fluid mechanics and their application to biology, physiology, chemistry and pharmacy. Laboratory activities are drawn from these topics and include an introduction to statistical and error analysis. Format: lecture and laboratory. (prerequisites: MATH 1100 with a grade of C- or better, or a minimum score of 27 on the MACT, or instructor approval)

PHYS 3212 Physics II (4 Cr.)

An algebra-based introduction to acoustic, electromagnetic, optical and quantum phenomena. Topics include wave phenomena, sound and acoustic resonance, electric fields, circuits, light refraction, light diffraction, geometric optics, implications of electron wave theory, and their application to biology, physiology chemistry and pharmacy. Laboratory activities are drawn from these topics. Format: lecture and laboratory. (prerequisites: PHYS 3211 with a C- or better)

PPEL 4000 Hospital Pharmacy (3 Cr.)

This course provides students with an introduction to hospital pharmacy systems. This course will introduce the theories behind the concepts of drug distribution, intravenous admixtures, medication cabinet technology, computer applications, clinical services as well as the traditional services within the hospital setting and how they are related in the provision of pharmaceutical care. (professional elective; prerequisites: none) (restrictions: Professional Year 1 status)

PPEL 4001 Community Pharmacy (2 Cr.)

This course provides students with an introduction to community pharmacy. Students will become familiar with the basic concepts associated with practicing in a community setting, including, but not limited to: legal concepts, workflow, communication, third-party processing, patient care services and inventory control, while reflecting on their own experiences in and out of the classroom and how their experiences connect to the theoretical ideal of the profession in the community setting. (professional elective; prerequisites: none) (restrictions: Professional Year 1 status)

PPEL 4002 Diversity in Health Care Beliefs (3 Cr.)

This elective course will explore the belief systems and values which underlie a range of controversial health related-views on health and lifestyles, disease prevention and medical care, and end-of-life issues. Students will practice articulating disparate ideas using objective and accurate language. Differing viewpoints will be compared and contrasted and implications of those beliefs on an individual's health care choices will be discussed. Students will learn to differentiate beliefs based on misunderstanding and misinformation, for which the pharmacist should provide accurate information, versus those based on values, which should be respected. (professional elective; prerequisites: none) (restrictions: Professional Year 1 status)

PPEL 4003 Database Management and Information Systems (3 Cr.)

This is the foundational course for the other electives in the informatics area of focus. This course will also be useful for students wishing to pursue a research area of focus. The purpose of this course is to facilitate students' understanding of information systems, security, data sources and other database structures. The course will begin with an overview of data manipulation methods using flat file, comma delimited, tab delimited and Excel files, and their integration into and out of table structures. It will cover the most used terminology in the information fields, data hierarchy and examine security and other issues related to data management. It will then move into database creation, utilizing Access to enable students to create their own databases and reports to provide realistic learning opportunities. (professional elective; prerequisites: none) (restrictions: Professional Year 1 status)

PPEL 4100 Health Literacy in the Community (3 Cr.)

This interprofessional course will focus on health literacy of indigent populations with opportunities to provide health information to residents at Gateway Homeless Shelter and education materials at an inner-city clinic. The students will develop knowledge and competence in the areas of interprofessional collaboration (along with nursing students), patient-centered care (including health literacy), care coordination and navigating the health system, all in the context of service to a homeless population. Most writing assignments will be weekly journals reflecting on civic engagement opportunities and will include personal thoughts, insights and emotions in response to those activities. (professional elective, writing emphasis; prerequisites: none) (restrictions: Professional Year 1 status)

PPEL 5000 Introduction to Drug Development (3 Cr.)

The intent of the Introduction to Drug Development elective is to familiarize Doctor of Pharmacy students with the complicated process that precedes marketing authorization of pharmaceuticals in the United States. Through various activities and assignments, students will be exposed to the data and strategy behind various sections of the U.S. Prescribing Information (USPI), as well as the integrated approach to drug development within a pharmaceutical company. This course will provide the

opportunity for students to apply the knowledge and principles they have gained in courses such as pharmaceuticals, pharmacology and therapeutics as they learn how all of these components are incorporated to advance a drug to market. Students who complete this course will have a greater appreciation for the pharmaceuticals they recommend, dispense and on which they counsel patients. (professional elective; prerequisites: PHAR 5142, PHIM 5122, and PHPR 5132 with a C- or better)

PPEL 5001 Introduction to Nuclear Pharmacy (2 Cr.)

Basic concepts of radiation, detection of radioactivity and the production and quality control of certain radiopharmaceuticals. The localization and biochemical fate of major diagnostic radiopharmaceuticals and public health aspects of radiation. Emphasis is placed on the use of radioisotopes in medicine. Lectures two hours each week. (professional elective; prerequisites: none) (restrictions: Professional Year 2 status)

PPEL 5002 Advanced Pharmacotherapy I (2 Cr.)

This abilities-based elective course provides students the opportunity to enhance clinical decision-making skills and self-learning skills by focusing on complex pharmacotherapy cases and evaluation of primary literature and guidelines to promote effective abilities in assessing medical problems and assessing pharmacotherapy regimens, selecting and developing individualized patient-centered care plans utilizing the principles of evidence-based decision-making. Opportunities to observe and deliver a journal club presentation is provided. Course topics supplement and complement those taught in the integrated pharmacotherapy series for P2 and P3 students and may change each year. (professional elective; prerequisites: PHAR 5121, PHAR 5131 and PHPR 5131 with a C- or better)

PPEL 5003 Advanced Community Pharmacy (3 Cr.)

This professional elective course will build on IPPE 5123 (Introductory Pharmacy Practice Experience: Community Pharmacy). Students will integrate knowledge from current and previous courses and experiences and solve problems commonly faced in the community pharmacy setting. Topics covered include, but are not limited to, community pharmacy as a career path, roles and responsibilities of a community pharmacist, communication (patient and provider), self-care and nonprescription medications, pharmacy law, quality improvement and medication safety, third party reimbursement and human resources and personnel management. (professional elective; prerequisites: IPPE 5123 with a C- or better)

PPEL 5004 Introduction to Residency Training (1 Cr.)

This course is designed to introduce the student to potential postgraduate training opportunities including residency and fellowship training. Students will learn about the structure of residency training programs, how to identify potential opportunities, what they can expect to gain by completion of a program, and the selection match process. Students will learn what it takes to be competitive for such programs, including the proper development of a curriculum vitae, how to write a letter of intent and how to communicate with individuals in a program. (professional elective; prerequisites: PHAR 4112 or PHAR 4113 with a C- or better)

PPEL 5006 Spanish for Pharmacy Professionals (3 Cr.)

This course is designed to provide the student with the communication skills necessary to provide care to the Spanish-speaking patient. At the end of this course, students will have an expanded Spanish vocabulary, able to explain steps to counsel on a variety of medication formulations, provide general questions for common self-care problems and disease states, provide some key phrases and vocabulary for physical assessment more commonly used by pharmacists, and provide cultural notes relevant to various segments of the Hispanic community. Completion of an introductory college-level basic Spanish is not required but highly recommended. (professional elective; prerequisites: PHAR 4112 and PHPR 4112)

PPEL 5007 Alumni Leadership Forum (1 Cr.)

This course will expose students to the different career paths one can pursue with a pharmacy degree and build connections between alumni and students to strengthen the University of Health Sciences and Pharmacy in St. Louis network. Each week a different professional will lead the class in an overview of their career path and successes and failures along the way, what they wish they knew starting out, how certain jobs or memberships prepared them for where they are today and what their current job responsibilities are. Students in the class will enhance their professional awareness and networking, communication and interpersonal skills; learn the importance of staying involved in the profession; and enhance their career knowledge and planning skills. (professional elective; prerequisites: PHAR 4112 with a C- or better)

PPEL 5008 Medical Ethics for Pharmacists (3 Cr.)

In this course, basic ethical principles, the evolution/ types of ethical frameworks, and sources of conflicts in contemporary health care will be discussed. Students will learn to analyze real life situations and logically apply a standardized process to make ethical decisions. A pharmacist's fiduciary responsibilities will be explored through situations involving interprofessional patient care, health care systems, and medical research. Students will gain an appreciation for sources of today's ethical dilemmas and the pharmacist role in shared decision making with patients and addressing health care inequities/disparities. Case-based, self-, and active learning strategies will be extensively utilized. (professional elective; prerequisites: BIOL 4100, BIOL 4101, and BIOL 4201 with a C- or better; corequisites: PHAR 5121, PHAR 5132 and PHIM 4110)

PPEL 5009 Introduction to Pharmaceutical Industry (3 Cr.)

This elective is designed to offer students opportunities to develop knowledge, skills, and professional attitudes related to the various types of non-traditional pharmaceutical practice opportunities within the Pharmaceutical and Biotech Industries. Content covered will expose students to a variety of ways they may utilize their extensive clinical, analytical, verbal, written and professional skills to contribute to the front line of emerging treatment options. (professional elective; prerequisites: none; corequisites: PHIM 5122)

PPEL 5100 Primary Care (3 Cr.)

The practice of pharmacy is constantly evolving. It is more commonplace than ever for dispensing pharmacists to step into more nontraditional roles that may include immunizer, medication reconciliation expert, drug information specialist and to provide medication therapy management (MTM). The purpose of this elective is to hone students' abilities in these areas by further advancing

their skills in treating disease states seen commonly in an ambulatory care and primary care setting. (professional elective, writing emphasis; prerequisites: none) (restrictions: Professional Year 2 status)

PPEL 5101 Advanced Cardiology (3 Cr.)

This elective is designed to offer students additional opportunities to practice knowledge, skills, and attitudes developed in Integrated Pharmacotherapy: Cardiology in an asynchronous, online format. Content covered will coincide with knowledge learned in the parallel course and skills lab, allowing students to further hone their skills related to the Pharmacists' Patient Care Process for topics covered in both the IP: Endocrinology and IP: Nephrology. (professional elective, writing emphasis; prerequisites: PHAR 5121, PHPR 5121, PHIM 4110; corequisites: PHAR 5142, PHAR 5152 and PHPR 5132)

PPEL 6000 Advanced Pharmacotherapy II (2 Cr.)

This abilities-based elective course provides students the opportunity to enhance clinical decision-making skills and self-learning skills by focusing on complex pharmacotherapy cases and evaluation of primary literature and guidelines to promote effective abilities in assessing medical problems and assessing pharmacotherapy regimens, selecting and developing individualized patient-centered care plans utilizing the principles of evidence-based decision-making.

Opportunities to observe and deliver a journal club presentation is provided. Course topics supplement and complement those taught in the integrated pharmacotherapy series for Professional Year 2 and 3 students and may change each year. (professional elective; prerequisites: PHAR 5121, PHAR 5131 and PHPR 5131 with a C- or better)

PPEL 6001 Clinical Cases in Infectious Disease (3 Cr.)

This course will introduce students to a variety of real world, actual patient cases in infectious diseases. Cases will be presented by practicing infectious diseases and critical care specialists who were involved in the care of the actual patient cases to be discussed. Building upon knowledge and skills acquired in Integrated Pharmacotherapy: Infectious Diseases, this course will focus on enhancing student ability to select and recommend patient-specific pharmacotherapy and monitor for effectiveness and safety of therapy. Students will also gain exposure to and participate in nuanced clinical decision-making and communication through active discussions with peers and instructors. (professional elective; prerequisites: PHAR 6161 with a C- or better)

PPEL 6002 Topics in Critical Care (2 Cr.)

This course emphasizes further development of principles of pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics (including self-care and pharmacogenomics) in the evidence-based and patient-specific treatment of critical care disease states. Student pharmacists will practice patient-centered care as described in the pharmacists' patient care process articulated by the Joint Commission of Pharmacy Practitioners. Student pharmacists will hone knowledge, skills and attitudes, values, habits related to collecting and assessing patient data; perform comprehensive patient and disease assessment; develop, implement, interpret and evaluate care plans; and provide ongoing coordinated or transitional care services in the area of critical care as appropriate. (professional elective; prerequisites: PHAR 6322 with a C- or better)

PPEL 6003 Advocating and Leading the Pharmacy Profession (3 Cr.)

This course is a professional elective course designed to prepare pharmacy students for professional advocacy and leadership development. Students will learn to advocate the profession of pharmacy towards patients, prescribers, payers and legislators. Students will gain an understanding of the importance of being advocates and how politics can impact the profession. They will be mobilized to actively engage legislators and build relationships with community and thought leaders. Topics covered include, but are not limited to political advocacy, understanding the legislative process, understanding the political landscape of pharmacy, discussing barriers in the profession, learning to lead colleagues, other professionals and teams. (professional elective; prerequisites: none)

PPEL 6100 Global Infectious Disease (3 Cr.)

The purpose of the proposed course is to expose students to infectious diseases that are less common in the U.S. but have a far-reaching global impact. Students will learn how to assess some important global infectious diseases, provide therapeutic and prophylactic recommendations, monitor drug therapy and disease state progression and learn more about the epidemiology of these diseases and what role national and global organizations have in their prevention and management. (professional elective, writing emphasis; prerequisites: PHAR 6161 with a C- or better)

PPEL 6101 Advanced Diabetes Management (3 Cr.)

This elective is designed to offer students additional opportunities to develop knowledge, skills, and professional attitudes related to diabetes management. Content covered will build upon knowledge learned in the Integrated Pharmacotherapy: Endocrinology and Skills Lab 3, allowing students to further develop their skills related to the Pharmacists' Patient Care Process for patients with diabetes. (professional elective, writing emphasis; prerequisites: PHAR 5142, PHAR 5152, PHPR 5132 and PHIM 5122)

PPEL 6102 Advanced Leadership (3 Cr.)

This elective is designed to offer students opportunities to develop deeper knowledge, skills, and professional attitudes related to leadership in an asynchronous, online format. The course will center around weekly conversations of the ten most critical characteristics of effective leadership. Students will analyze leadership theories and styles and will compare and contrast leadership principles from various authors. (professional elective, writing emphasis; prerequisites: MGMT 5100)

PSEL 4000 Medicinal Herbs and Phytopharmacy (2 Cr.)

This course approaches topics on the most commonly used herbal drugs from a scientific viewpoint. The use of herbal drugs is studied according to disease state or folkloric use and legitimate medical applications are distinguished from quackery. The course centers on the medicinal constituents of the herbs, which forms the basis for intensive studies of interactions between herbal drugs and prescription drugs, toxicities and plant drugs as leads for new proprietary medicinals. (professional elective; prerequisites: none) (restrictions: Professional Year 1 status)

PSEL 4001 Advanced Drug Delivery Systems (2 Cr.)

This course will cover the principles of the emerging nanomedicine technology in drug delivery systems, physicochemical properties of nanomedicine, advantages and limitations of nanomedicine products and nanomedicine products currently available in the clinical setting and in the development process that may impact therapeutic outcome. This course will also allow students to have hands-on laboratory experiences on the preparation and evaluation of nanomedicine. (professional elective; prerequisites: PHRC 4123 with a C- or better; corequisites: PHRC 5131)

PSEL 4100 International Service Learning (3 Cr.)

The practice of pharmaceutical care requires not only knowledge and skills regarding drug therapies but also a caring attitude, and empathy and compassion for those to whom the practitioner renders service. This course provides students with a structured international service experience so they can explore their values, particularly their attitudes toward service; gain experiential knowledge of the population they are serving; learn about public health and the operations of social and medical agencies; and develop a better understanding of patient-centered care. Through discussion sessions and frequent writing activities, students will clarify and develop their ideas and attitudes about service. (professional elective, writing emphasis; prerequisites: approval of instructor) (restrictions: Professional Year 1 status and students cannot also receive credit for PSEL 4103)

PSEL 4101 Pharmacoepidemiology (3 Cr.)

This course explores the principles and methods of pharmacoepidemiology. Students will learn the general concepts, analytic methods and applications of pharmacoepidemiology. The course will cover the topics such as causal inference, bias and effect modification; statistical methods to analyze and interpret data from various epidemiological study designs; and epidemiological techniques for designing, implementing, analyzing and interpreting pharmacoepidemiology studies. This course will help students to apply the epidemiologic concepts and techniques to evaluate the pharmacoepidemiology studies and formulate unique research questions and opportunities. (professional elective, writing emphasis; prerequisites: none) (restrictions: Professional Year 1 status) Health

PSEL 4102 Introduction to Pharmacy Entrepreneurship (3 Cr.)

This course is designed to acquaint the student with the requirements for small business ownership and prepare the student for the practical problems associated with initiating a retail enterprise. Emphasis is placed on the establishment of appropriate management procedures, estimates of capital requirements and the mechanics involved with the initial operation of a small business. (professional elective, writing emphasis; prerequisites: none) (restrictions: Professional Year 1 status)

PSEL 4103 Topics in Pharmaceutical Care: Community Service (3 Cr.)

This course provides students with a structured community service experience so they can explore their values, particularly attitudes toward service; gain experiential knowledge of the population they are serving; learn about the operations of social and medical agencies; and develop a better understanding of patient-centered care. Students schedule and prepare service activities, make weekly visits to patients and clients and reflect on their experiences during oral discussions and in written journals and essays. This course is composed of two hours of lecture and discussion, plus two to three hours of

service activity weekly. (professional elective, writing emphasis; prerequisites: none) (restrictions: Professional Year 1 status and students cannot also receive credit for PSEL 4100)

PSEL 4104 Introduction to Pharmacoeconomics and Outcomes Research (3 Cr.)

This course is designed to acquaint the student with the principles and methods of pharmacoeconomics, the skills to critically evaluate pharmacoeconomic literature, the applications to health care decision-making and the process of designing a proposal for conducting a pharmacoeconomic study. This course will help students understand how pharmacists can have an important impact on the decision-making processes of health care institutions, managed care organizations, pharmaceutical companies and governmental agencies by providing an analysis of the cost of drug therapy and related services. (professional elective, writing emphasis; prerequisites: none) (restrictions: Professional Year 1 status)

PSEL 4105 Writing for Health (3 Cr.)

Students who successfully complete this course will learn how writing about illness, loss and grief can improve health outcomes. Skills are developed through investigation of the health care literature, self-reflection, group discussions and written exercises. As an upper-level, professional writing emphasis elective, the assignments are structured to allow students to develop as self-directed, independent learners. (professional elective, writing emphasis; prerequisites: none) (restrictions: Professional Year 1 status)

PSEL 5000 Advanced Compounding (2 Cr.)

This course will provide advanced training in the art, science and technology of pharmaceutical compounding. It is a hands-on, laboratory-based course that will help students become proficient in contemporary compounding techniques and equipment. The focus is on the patient-centered results of compounding, including the preparation of the various drug products and evaluation of the safety and efficacy of each product for each patient. (professional elective; prerequisite: PHRC 4123 with a C- or better)

PSEL 5001 Principles of Toxicology (3 Cr.)

A professional elective course that introduces students to the general principles related to harmful effects of drugs and environmental toxins. It is focused on sources, biochemical and pharmacological properties, sites and mechanisms of toxicity, metabolism and effects on human organism of toxic substances. Particular emphasis is placed on mechanisms of toxin-induced cell damage and cell death, general aspects of prevention and treatment. The course expands upon the principles learned in biochemistry, physiology and principles of drug action or pharmacology. (professional elective; prerequisites: PHRC 4123 with a C- or better)

PSEL 5002 Advanced Compounding (3 Cr.)

This course will provide advanced training in the art, science and technology of pharmaceutical compounding. It is a hands-on, laboratory-based course that will help students become proficient in contemporary compounding techniques and equipment. The focus is on the patient-centered results of compounding, including the preparation of the various drug products and evaluation of the safety and

efficacy of each product for each patient. (professional elective; prerequisite: PHRC 4123 with a C- or better)

PSEL 6000 Action Research Planning (3 Cr.)

The purpose of this course is to facilitate students' planning of action research and to realize its value to them as researchers. After selecting a research topic of interest such as an issue related to patient care, drug therapy administration, effect of drugs, drug cost or drug availability, to name a few, students will conduct a review of pertinent literature related to the topic and design an appropriate research plan for their research setting. Students will conduct the necessary research and construct a detailed paper which includes rationale for the research project, review of literature, methodology for the research project and detailed results and discussion. This will be presented to classmates. (professional elective; prerequisite: PHIM 5122 with a C- or better)

PSYC 2210 Principles of Psychology (3 Cr.)

This course presents the basic principles of psychology to develop an evidence-based understanding of human behavior. Students integrate their knowledge of learning and cognition, individual differences and developmental changes with biological processes and social influences. Psychodynamic, humanistic, cognitive, behavioral and biological perspectives are presented to describe behavior and mental processes, including theoretical explanations of health and psychopathology. Students practice applying these concepts to specific examples in their experiences, novel situations and popular media. The fundamental link between the research and application of the principles of psychology is supported by an examination of empirical data in real-world settings. (social and behavioral science general education; prerequisites: none)

PSYC 2220 Developmental Psychology through the Lifespan (3 Cr.)

This course provides an introduction to the scientific study of human development through the lifespan, integrating the psychological, social and environmental, and biological influences on physical, cognitive and socioemotional development. Students practice identifying key concepts in developmental psychology and applying these concepts to specific examples in student life, case studies and popular media. This course provides a foundational knowledge base for developmental concepts and research-supported principles. This course builds upon the foundation of integrated learning and information literacy from the principles of psychology course and prepares students for subsequent courses in psychology and required courses in their degree program. (social and behavioral science general education, social science selective; prerequisites: PSYC 2210 with a C- or better)

PSYC 3300 Case Studies in Abnormal Psychology (3 Cr.)

This course explores the causes, symptoms and treatments of psychopathology, while students develop a deeper understanding of a selected psychological disorder through examining treatment research and a case study. Students will form a multifaceted understanding of psychopathology by studying behavioral, cognitive, social and biological influences that contribute to its development. Students will learn the symptoms that characterize psychological disorders in the current psychiatric diagnostic system. Through their research, students will identify evidence-based treatment practices, including both medication-based and psychosocial therapies. Students will apply this knowledge by examining a selected clinical case, evaluating relevant treatment research and exploring appropriate treatment

options. Students develop information literacy, ethical reasoning and written communication skills in the context of an area of psychopathology of particular interest to the student. (social and behavioral science general education, liberal arts selective, social science selective, writing intensive; prerequisites: PSYC 2210 with a C- or better)

PSYC 3310 Personality Theory and Case Studies (3 Cr.)

This course explores theoretical and research-based understanding of human differences. Students form a multifaceted understanding of personality by integrating psychodynamic, trait, humanistic, cognitive and behavioral perspectives to better understand human nature. Students read recent research, evaluate personality theories and apply this knowledge to selected case examples, integrating their understanding of different perspectives and developing their own model of personality theory as it relates to a given case. Students develop information literacy, written communication and integrative learning skills in the context of personality. (social and behavioral science general education, liberal arts selective, social science selective, writing intensive; prerequisites: PSYC 2210 with a C- or better)

PSYC 3320 Social Psychology Seminar (3 Cr.)

This seminar focuses on select topics in social psychology, a field which explores perceptions, thoughts, feelings, and behaviors of individuals and groups within a social context. This is a highly participatory and applied course in which students will: (1) engage in classroom discussion and debate, (2) read and critically evaluate psychological literature, and (3) apply theory through group presentations on psychological concepts and the creation of a short video to address a problem in patient health. (social and behavioral science general education, liberal arts selective; social science selective. prerequisites: PSYC 2210 with a C- or better)

R

Research Project (1 or 2 Cr.)

Before a student may register for a research project, a written proposal describing the project must be approved by the sponsoring faculty member and respective department chair. A student is allowed a maximum of two credit hours of research and special projects per semester in each school. Students must summarize the accomplishments of the project by preparing a written report. A final exam is optional. No more than four credit hours of special projects and research projects will count toward each school's graduation requirements. (prerequisites: none)

S

Selected Topics (2 or 3 Cr.)

Selected topics courses may be offered by any faculty member with the approval of the respective department chair and curriculum committee. Selected topic courses are intended for students who wish to continue their studies of a discipline in which they have already taken one or more classes. (prerequisites: to be determined by instructor)

SEMR 1105 Foundations of Learning (1 Cr.)

This course is intended to assist students in their transition to life at the University. Students entering college for the first time are bombarded with numerous academic and life challenges which may interfere with their overall academic success. The sessions in this course are designed to improve students' academic and life skills through interactive exercises, classroom discussions, homework, presentations and a final project. The first section of the course will be completed during new student orientation in August, before all other regular classes convene. The remainder of the course will be completed during the regular, weekly classes held during the fall semester. (prerequisites: none)

SOCI 2210 Principles of Sociology (3 Cr.)

The purpose of this course is to introduce students to what sociologists study and how they study it. Students will read and talk about a variety of topics, including social inequality, the influence of groups on behavior, how culture shapes people's lives, and lots of things in between. Students will learn about the major theoretical approaches and concepts used by sociologists, as well as the methodological tools they use to make sense of the social world. The goal of this course is to demonstrate the relevance of sociological thinking and research for students' professional and personal lives. (social and behavioral science general education; prerequisites: none)

SOCI 3300 Social Gerontology (3 Cr.)

An examination of the dynamic relationships between an aging population and the society in which this aging occurs, the diversity of human aging is associated with self-concepts, reassessing one's life and striking a balance between past values and future opportunities. Where older persons live, their cultural backgrounds, their needs and resources are provided by society. Retirement, health consciousness, residence, spirituality, social and family life are some of the issues included in this course that require decisions which will result in active aging or aging in dependency. (liberal arts selective, social science selective; prerequisites: PSYC 2210 and SOCI 2210 with a C- or better)

SOCI 3310 Chronic Illness, Death and Dying (3 Cr.)

This course examines the cultural, social and psychological dimensions of chronic, life-limiting illness, dying and death. Important areas to be included are the cultural implications and medicalization of chronic illness and death, cultural perceptions regarding death, suicide and individual expressions of grief and strategies of bereavement. (liberal arts selective, social science selective; prerequisites: SOCI 2210 or PSYC 2210 with a C- or better)

SOCI 3320 Health, Biomedicine and Society (3 Cr.)

This writing intensive course examines the social meanings of health and illness as well as the social organization of biomedical institutions and encounters. Students will learn to read and critically evaluate sociological monographs and other technical literature. (social and behavioral science general education, liberal arts selective, social science selective, writing intensive; prerequisites: SOCI 2210 and WRIT 1102 with a C- or better)

SOCI 3330 Sports and Society (3 Cr.)

Sociological theories guide exploration of the complex relationships between sports and society. Topics include age, gender and social class variations of spectators and participants, team versus individual sports, coaching, elite participation, media, social minorities, economic and political influences. The ethics of competition and winning in sports is an important content of this course. Class discussions and written assignments will be instrumental to acquiring a personal value system toward sporting behaviors in our society. (liberal arts selective, social science selective; prerequisites: SOCI 2210 and either PSYC 2210 or ANTH 2220 with a C- or better)

SOCI 3340 Drugs and Society (3 Cr.)

This writing intensive (WI) course provides a broad introduction to the sociology of drugs and their use. Students will analyze drug use and abuse as social, as opposed to medical or psychopathological, phenomena. Topics include the history of drug use and regulatory efforts; the epidemiology of drug use (including use of patterns related to specific drugs); the relationship between drug use and social inequality; sociological perspectives on drug abuse and addiction; and social responses to drug use, including laws and policies, harm reduction, prevention and treatment. Students will learn to read and critically evaluate sociological monographs and other technical literature. (social and behavioral science general education, liberal arts selective; social science selective, writing intensive; prerequisites: SOCI 2210 and WRIT 1102 with a C- or better)

SOCI 3350 Social Science Research Methods (3 Cr.)

This course provides a broad overview of how sociologists, psychologists, and scholars in related disciplines ask and answer research questions, as well as offers hands-on experience doing social science research. Students will learn about all stages of the research process, from formulating a research question and measuring variables to selecting an appropriate data collection technique and analyzing both qualitative and quantitative data. (liberal arts selective; social science selective; prerequisites: SOCI 2210, PSYC 2210, and WRIT 1102 with a C- or better)

Special Projects (1 or 2 Cr.)

Special projects are to permit an in-depth study of an advanced topic within a specific discipline. Before a student may register for a special project, a written proposal describing the project must be approved by the sponsoring faculty member and respective department chair. Special projects are not to duplicate efforts in existing courses. A student is allowed a maximum of two credit hours of research and special projects per semester in each school. Students are to summarize the accomplishments of the special project by preparing a written report. A final exam is optional. No more than four credit hours of special projects and research projects will count toward each school's graduation requirements. (prerequisites: none)

WRIT 1101 The Effective Writer (3 Cr.)

This course teaches students to write clearly and substantively in a range of writing modes. The course introduces students to the forms and conventions of college-level writing and to the varying expectations of different readers. Toward these ends, it guides students to read carefully and critically, preparing them to make sense of challenging texts they will encounter throughout their academic careers and beyond. The central outcome of the course is to help students read and write more effectively. This course is a prerequisite for the writer as advocate course and teaches essential foundational skills for subsequent writing assignments in other courses, including writing intensive courses. (written communication general education; prerequisites: none)

WRIT 1102 The Writer as Advocate (3 Cr.)

This course focuses on how writers use language to persuade and convince readers. Drawing on their understanding of the reader, context and content, students will draft and revise text strategically to accomplish specific purposes. Students will learn to write arguments that clearly define and soundly support their positions on an issue, and they will apply these skills in an academic research paper that demonstrates a deep understanding of a complex topic using carefully selected sources. The course teaches essential critical thinking and rhetorical skills for subsequent writing assignments in other courses, including writing intensive courses. (written communication general education; prerequisites: WRIT 1101 with a grade of C- or better)

WRIT 3300 Business Writing (3 Cr.)

This course focuses on improving communication skills by learning the forms and conventions of workplace writing. Assignments will include memos and letters responding to a variety of rhetorical situations (e.g., informative, persuasive, negative), proposals, reports, job application letters and résumés. The course will emphasize clarity, conciseness, organization, format, style, tone and mechanical correctness as well as expanding upon students' research and documentation skills. Peer response workshops will be required. (literature selective, writing intensive; prerequisites: WRIT 1102 with a grade of C- or better)

WRIT 3310 Writing in the Biomedical Sciences (3 Cr.)

This course introduces students to scientific literature and the unique conventions of writing in the sciences. Topics covered include: the principles of effective writing in the sciences, organization and structure of scientific literature, contents of each section, the economy of words, appropriate verbiage, visual presentation of data (graphs, tables and charts), ethics and proper citation. Students will receive instruction and engage in evaluating scientific research papers, practice writing sections of scientific research papers, evaluate and edit each other's work and compose a scientific research paper after having been provided complete and appropriate data. (advanced biology selective, STEM selective, writing intensive; prerequisites: BIOL 2231 and CHEM 1232 or CHEM 2314 with a C- or better)

WRIT 3320 Reviewing Scientific Literature (3 Cr.)

This course will examine the formats and audiences for formal scientific writing, especially as that writing applies to the health sciences. Aspects of what it means to be generally scientifically literate will be discussed. The focus of the course will be comparing the conventions associated with scientific writing in different contexts including communication between research peers, communicating with a broader scientifically literate audience and communicating scientific findings to the general public. The course will include a discussion of how the conventions relate to perceived validity and reliability of publications. Students will choose a topic to investigate and practice various forms of writing about that topic including an annotated bibliography, analysis of a review article from the scientific literature and a comprehensive review of the topic for a general audience. (advanced biology selective, STEM selective, writing intensive; prerequisites: BIOL 2220, CHEM 1232 or CHEM 2314, PSYC 2210 or SOCI 2210)

FACULTY

Ream Al-Hasani, Assistant Professor of Pharmaceutical Sciences (2017) University of Portsmouth, B.Sc. Hons; University of Surrey, Ph.D.

David D. Allen, President and Professor (2021) University of Kentucky, B.S.; University of Kentucky, Ph.D.

Whitney Anthonymsamy, Assistant Professor of Biology (2017) Southern Illinois University Carbondale, B.S.; University of Illinois at Urbana-Champaign, M.S., Ph.D.

Anastasia Armbruster, Associate Professor of Pharmacy Practice (2011) St. Louis College of Pharmacy at UHSP, Pharm.D.

Benjamin Barth, Associate Professor of Organic Chemistry (2011) Spring Arbor University, B.A.; Purdue University, Ph.D.

Tricia M. Berry, Professor of Pharmacy Practice; Assistant Dean, Student Academic Affairs (1996) St. Louis College of Pharmacy at UHSP, B.S., Pharm.D.

Cyrielle Billon, Assistant Professor of Pharmacology (2018) Claude Bernard University of Lyon France, B.S., M.S.; Ecole Normale Supérieure, Ph.D.; University of Lyon, France, Ph.D.

Suzanne Bollmeier, Professor of Pharmacy Practice (2001) St. Louis College of Pharmacy at UHSP, B.S., Pharm.D.

Ehren Bucholtz, Interim Dean, College of Arts and Sciences; Director, MS Medicinal Chemistry, Professor of Organic Chemistry (2006) Northern Illinois University, B.S.; University of North Carolina, Ph.D.

John M. Burke, Professor of Pharmacy Practice (1992) University of Missouri-Kansas City, B.S.; University of Texas, Pharm.D.

Yvonne Burnett, Associate Professor of Pharmacy Practice (2015) University of Rhode Island, Pharm.D.

Laura Moretti Challen, Associate Professor of Pharmacy Practice (2012) University of Texas, Pharm.D.; University of Houston, MBA

Andrew Crannage, Interim Chair, Department of Pharmacy Practice; Professor of Pharmacy Practice (2009) St. Louis College of Pharmacy at UHSP, Pharm.D.

Erica Crannage, Associate Professor of Pharmacy Practice (2010) Drake University, Pharm.D.

Dennis Doyle, Associate Professor of History (2011) Eastern Connecticut State University, B.A.; Stony Brook University, The State University of New York, M.A., Ph.D.

Bahaa El-Gendy, Associate Professor of Medicinal Chemistry (2018) Benha University, B.S.; University of Florida, Ph.D.

Jean Escudero, Assistant Professor of Microbiology (2015) St. Mary's College, B.S.; The Ohio State University, Ph.D.

Patrick M. Finnegan, Associate Professor of Pharmacy Practice (2004) Saint Louis University, B.S.; St. Louis College of Pharmacy at UHSP, B.S., Pharm.D.

Dayton J. Ford, Associate Professor of Biology (1999) Upstate Medical University, The State University of New York, B.S., Ph.D.

Alicia B. Forinash, Professor of Pharmacy Practice (2002) St. Louis College of Pharmacy at UHSP, B.S., Pharm.D.

Tristan T. Frampton, Assistant Professor of Music; Director of Music Activities (2012) Truman State University, B.A.; University of Arizona, M.M.; University of Missouri-Columbia, Ph.D.

Nicole M. Gattas, Professor of Pharmacy Practice; Director of Experiential Education (2003) University of Iowa, Pharm.D.

Brenda L. Gleason, Vice President, Program Development and Strategic Initiatives; Professor of Pharmacy Practice (1999) University of Health Sciences and Pharmacy in St. Louis, B.S., Pharm.D.

Gloria R. Grice, Professor of Pharmacy Practice; Associate Dean for Academic Affairs (2003) University of Maryland, Pharm.D.

Scott Griggs, Associate Professor of Pharmacy Administration (2011) The University of William and Mary, B.A.; University of Texas, Pharm.D., Ph.D.

Jessica Gross, Assistant Professor of English (2015) Grove City College, B.A ; University of Wisconsin, Ph.D.

Justinne Guyton, Associate Professor of Pharmacy Practice (2013) Westminster College, B.A.; Southern Illinois University Edwardsville, Pharm.D.

Lamees Hegazy, Assistant Professor of Medicinal Chemistry (2018) Mansoura University, B.Sc.; University of Florida, Ph.D.

Erin Hennessey, Associate Professor of Pharmacy Practice (2013) University of Health Sciences and Pharmacy in St. Louis, Pharm.D.

Benjamin Jellen, Associate Professor of Biological Sciences (2018) University of Illinois at Urbana- Champaign, B.S., M.S.; Saint Louis University, Ph.D.

Haley Johnson, Assistant Professor of Pharmacy Practice (2020) Southern Illinois University Edwardsville, Pharm.D.

Paul H. Juang, Professor of Pharmacy Practice (2005) University of Rochester, B.S.; University at Buffalo, The State University of New York, Pharm.D.

Theresa Laurent, Chair of the Department of Basic Sciences; Associate Professor of Mathematics (2002) Southern Illinois University Carbondale, B.A., M.S; University of Missouri-St. Louis, Ph.D.

Sara Lingow, Assistant Professor of Pharmacy Practice (2020) St. Louis College of Pharmacy at UHSP, Pharm.D.

Stephanie Lukas, Program Director, M.S Global Health and Equity; Associate Professor of Pharmacy Administration (2015) University of Illinois at Urbana-Champaign, B.S.; University of Iowa, Pharm.D., MPH

Susruta Majumdar, Associate Professor of Medicinal Chemistry (2018) Delhi University, B.Sc.; University of Florida, Ph.D.

Jasna Marjanovic, Associate Professor of Pharmacology (2008) University of Belgrade, B.S.; University of Illinois at Urbana-Champaign, Ph.D.

Richard P. McCall, Professor of Physics (1996) University of Louisiana at Monroe, B.S.; The Ohio State University, Ph.D.

Scott Micek, Director, Center for Health Outcomes Research and Education, Professor of Pharmacy Practice (2013) University of Iowa, Pharm.D.

Ryan Moenster, Professor of Pharmacy Practice (2007) St. Louis College of Pharmacy at UHSP, B.S., Pharm.D.

Shirley Moreno, Assistant Professor of Information Science; Catalog Librarian (2009) University of Missouri, B.A.; Fontbonne University, M.A.; Drexel University, M.S.L.I.S.

Dana Morrone, Associate Professor of Biochemistry (2015) Case Western Reserve University, B.S.; Iowa State University, Ph.D.

Tim Moylan, Associate Professor of English and Director of the Theater Program (2007) Southeast Missouri State University, B.S.; Saint Louis University, M.A., Ph.D.

Venkatareddy Nadithe, Associate Professor of Pharmaceutics (2018) Kakatiya University, B.Pharm.; University of Alberta, M.S.; University of Utah, Ph.D.

Jill S. Nissen, Assistant Professor of Information Science; Library Director (1993) University of California, B.A., M.L.I.S.

Jamie Pace, Assistant Professor of Mathematics (2015) Southern Illinois University Edwardsville, B.S., M.S.

Golden Peters, Associate Professor of Pharmacy Practice (2010) Fontbonne University, B.A.; Southern Illinois University Edwardsville, Pharm.D.

Giovanni M. Pauletti, Professor of Pharmaceutical Sciences; Interim Dean, St. Louis College of Pharmacy; Dean, College of Graduate Studies (2019) Swiss Federal Institute of Technology, M.Pharm., Swiss Federal Institute of Technology, Ph.D.

Jasmina Profirovic, Associate Professor of Pharmacology; Interim Chair, Department of Pharmaceutical and Administrative Sciences (2011) University of Belgrade, B.S.; University of Illinois at Chicago, Ph.D.

Theresa R. Prosser, Professor of Pharmacy Practice (1987) University of Illinois at Urbana-Champaign, B.S., Pharm.D.

Elizabeth Rattine-Flaherty, Chair of the Department of Liberal Arts; Associate Professor of Health Communications (2008) Ohio University, B.S., M.A., Ph.D.

Amy J. Reese, Associate Professor of Microbiology (2015) The University of Wooster, B.A ; University of Minnesota, Ph.D.

Sara Richter, Associate Professor of Pharmacy Practice (2014) St. Louis College of Pharmacy at UHSP, Pharm.D.

Donald R. Rickert, Professor of Pharmacy Administration (1981) St. Louis College of Pharmacy at UHSP, B.S.; Southern Illinois University Carbondale, MBA; Saint Louis University, Ph.D.

John Eric Robinson, Assistant Professor of History (2007) Howard University, B.A.; University of Missouri, M.A., MFA

Juan Rodriguez, Professor of Physics (2014) Centenary College of Louisiana, B.S.; University of Arkansas, Ph.D.

Noha Salama, Professor of Pharmaceutics (2009) Cairo University, B.Sc.; University of Maryland, Ph.D.

Nawaporn Sanguantrakun, Associate Professor of Chemistry (2014) Khon Kaen University, B.Sc.; California State University, Fullerton, M.S.; Purdue University, Ph.D.

Terry L. Seaton, Professor of Pharmacy Practice (1991) University of Colorado, B.S.; University of Washington, Pharm.D.

Carmen Smith, Associate Professor of Pharmacy Practice (2013) University of Tennessee, B.S., Pharm.D.

Alison Stevens, Associate Professor of Pharmacy Practice; Associate Director of Experiential Education (2015) Butler University, Pharm.D.

Besu Teshome, Associate Professor of Pharmacy Practice (2014) University of Texas, M.S., Pharm.D.

Amy M. Tiemeier, Director of Community Partnerships; Associate Director of Experiential Education; Associate Professor of Pharmacy Practice (2003) St. Louis College of Pharmacy at UHSP, B.S., Pharm.D.

Joseph Van Tuyl, Associate Professor of Pharmacy Practice (2015) University of Oklahoma, Pharm.D.

Melanie VanDyke, Assistant Professor of Psychology (2003) Saint Louis University, B.S.; University of Nebraska-Lincoln, M.A., Ph.D.

Kalyan Venkata, Associate Professor of Medicinal Chemistry (2019) Osmania University, B.Pharm.; University of Southern California, Ph.D.

Brian D. Walter, Professor of English (2007) Reed College, B.A.; Washington University in St. Louis, M.A., Ph.D.

Alexandria Wilson, Associate Professor of Pharmacy Practice (2004) University of Illinois at Urbana-Champaign, B.S.; St. Louis College of Pharmacy at UHSP, B.S., Pharm.D.

Abigail M. Yancey, Professor of Pharmacy Practice (2005) St. Louis College of Pharmacy at UHSP, B.S., Pharm.D.

Robert Zebroski, Professor of History (1993) Loyola University, B.S.; Stony Brook University, The State University of New York, M.A., Ph.D.

EMERITUS MEMBERS

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Bruce Canaday, Dean of Pharmacy Emeritus (2014) Purdue University, B.S.; University of Tennessee, Pharm.D.

Rodney J. Cooper, Professor of Physiology Emeritus (1968) Oklahoma State University, B.S.; Iowa State University, M.S., Ph.D.

Marilyn A. Fontane, Professor of English Emeritus (1989) Colorado State University, B.A., M.A.; University of Nebraska, Ph.D.

Patrick E. Fontane, Professor of Sociology Emeritus (1987) University of Connecticut, B.A.; University of Buffalo, The State University of New York, M.A., Ph.D.

Claude Gaebelein, Associate Professor of Biostatistics Emeritus (2002) John Carroll

University, A.B.; Kent State University, M.A.,
Ph.D.

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Peter D. Hurd, Professor of Pharmacy
Administration Emeritus (1986) Dartmouth
College, A.B.; Duke University, M.A.; University
of Minnesota, Ph.D.

Kenneth W. Kirk, Dean and Professor of
Pharmacy Administration Emeritus (1995) Ferris
State University, B.S.; University of Wisconsin,
M.S., Ph.D.

Carol H. Oliver, Associate Professor of English
Emeritus (1977) Luther College, B.A.; University
of Illinois at Urbana-Champaign, M.A., Ph.D.

Thomas F. Patton, President Emeritus,
Professor of Pharmaceutics (1994) University of
Wisconsin, B.S., M.S., Ph.D.

Bruce E. Phillips, Professor of Chemistry
Emeritus (1970) Olivet Nazarene College, A.B.;
Washington University in St. Louis, Ph.D.

John A. Pieper, President Emeritus; Professor of
Pharmacy Practice (2010) University of
Colorado, B.A.; University of Wyoming, B.S.;
University at Buffalo, The State University of
New York, Pharm.D.

Lucia J. Tranel, Associate Professor of Biology
Emeritus (1978) University of Missouri, B.A.,
M.S.

Thomas D. Zlatic, Professor of English Emeritus
(1987) University of Missouri, B.A.; Saint Louis
University, Ph.D.

John W. Zuzack, Professor of Medicinal
Chemistry Emeritus (1966) University of Health
Sciences and Pharmacy in St. Louis, B.S.; Saint
Louis University, B.S., M.S., Ph.D.

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