Doctor of Pharmacy (Pharm. D.)

Degree Offered

- Doctor of Pharmacy (Pharm.D.)

Nature of the Program

INTERPROFESSIONAL EDUCATION (IPE) OPPORTUNITIES

A wide array of health care learners at West Virginia University Health Sciences Center enables pharmacy students to learn with, from and about other health care professionals and students to prepare them to improve patient outcomes through interprofessional collaboration. Students work collaboratively in interprofessional learning experiences along with students from other health professional schools such as medicine, dentistry, public health, nursing, physical therapy, and occupational therapy. At WVU, IPE is a longitudinal thread that is progressive and reinforced throughout all four years of the curriculum. These experiences are supplemented by co-curricular activities such as community service projects outside of the classroom and other extracurricular activities. Experiences include:

- First Year Experience: First year longitudinal experience with students from a variety of health professions discussing and working through hands-on activities related to the core competencies of IPE including professional roles and responsibilities, teams and teamwork, IPE communication, and values and ethics. Students also complete interprofessional education simulation activities.
- Second Year Practice Experience: The second year IPE experiences are included in the Population Health and Policy course. Students will learn about an important public health topic from an interprofessional team of faculty and participate in a simulation and clinical practice experience with other health professional students related to this topic. Additional interprofessional simulations are also part of the curriculum.
- Third Year Acute Care Pharmacy Practice Experience: Students participate in IPE simulation and clinical practice activities. Examples of these activities include IPE rounding, Project Delivery of Chronic Care (DOCC), and the Interdisciplinary Education Apartment Simulation (IDEAS).
- Fourth Year Advanced Pharmacy Practice Experiences: Students work with a variety of students from other health professions providing direct and indirect patient care during five-week rotations in a variety of healthcare settings.

PROGRAM INFORMATION

AREA OF EMPHASIS IN ADVANCED CLINICAL PRACTICE

The Advanced Clinical Practice Area of Emphasis (AoE) is designed to enhance the preparation and competitiveness of Doctor of Pharmacy students applying for a PGY-1 residency. The AoE focuses on providing didactic and experiential education, as well as one-on-one mentorship, to allow students to understand and appreciate the nuances of clinical pharmacy practice. This track will offer a road map for students to be successful in critical areas including scholarship experience, organizational involvement, experiential education, and additional basic tools for navigating the application and interview process. The experiences provided in the AoE will provide students with a strong core foundation upon which further training in a residency program can expand upon. More information can be found on the School's web page (https://pharmacy.hsc.wvu.edu/student-services/pharmd-program/areas-of-emphasis-program/).

AREA OF EMPHASIS IN COLLEGE TEACHING IN PHARMACY

This area of emphasis program helps to prepare student pharmacists for teaching at the college level. The program combines courses and expertise at the university level with those at the School of Pharmacy to provide a broad range of knowledge and experience in pedagogy training, diversity issues in higher education, current issues in academic pharmacy education, and mentored teaching experience. Together, the program components will develop students' ability to design and teach their own courses while implementing effective classroom techniques and assessment. By completing the area of emphasis, students will be more competitive for residency and fellowship programs with an emphasis in teaching and will also be prepared to participate in college teaching as an adjunct pharmacy instructor or preceptor. More information can be found on the School's web page (https://pharmacy.hsc.wvu.edu/student-services/pharmd-program/areas-of-emphasis-program/).

AREA OF EMPHASIS IN GERIATRIC PHARMACY

This area of emphasis program offers students pursuing the Doctor of Pharmacy degree the opportunity to explore the basic biological, psychological, sociological and medical processes of aging, the needs and experiences of older people, and the impact of social policies related to human aging. An understanding of the unique experiences and needs of older adults in Appalachia and other rural areas is emphasized. More information can be found on the School's web page (https://pharmacy.hsc.wvu.edu/student-services/pharmd-program/areas-of-emphasis-program/).

AREA OF EMPHASIS IN GLOBAL HEALTH (FOR PHARMACY)

The area of emphasis program in global health trains students to be able to provide patient-centered care at home and abroad. Its focus is on providing both didactic and experiential education that will allow students to have an understanding and an appreciation for the global nature of healthcare and how pharmacy practice can impact individuals worldwide. More information can be found on the School's web page (https://pharmacy.hsc.wvu.edu/student-services/pharmd-program/areas-of-emphasis-program/).

AREA OF EMPHASIS IN TRANSLATIONAL PHARMACY RESEARCH

The Area of Emphasis (AoE) in Translational Pharmacy Research will allow students to understand and recognize the importance of and participate in translational research (e.g., how basic sciences contributions are applied in improving the quality of patients' health, how observations in the clinic direct new scientific hypotheses, and how health services and outcomes research impacts access, cost, quality and outcomes of health care). Participants conduct original research under the mentorship of a faculty member. More information can be found on the School's web page (https://pharmacy.hsc.wvu.edu/student-services/pharmd-program/areas-of-emphasis-program/).

Academic and Technical Standards

In accordance with section 504 of the Rehabilitative Act of 1973 (PL 93-112), and incorporating the guidelines of the Americans with Disabilities Act (ADA PL 101-336) enacted by Congress in 1990, the West Virginia University School of Pharmacy has adopted minimal technical standards for the assessment of admission, scholastic advancement, and graduation for its professional degree (Doctor of Pharmacy) program.

Because the Doctor of Pharmacy (Pharm.D.) degree signifies that the holder is a pharmacist prepared for entry into the practice of pharmacy, it follows that graduates must have the knowledge, skills, and demeanor to function in a broad variety of clinical situations and to conduct a wide spectrum of pharmaceutical care activities.

Candidates for admission into, progression through, and graduation from the Pharm.D. program must have the functional use of the senses of vision and hearing. Candidates' pharmaceutical skills will also be lessened without the functional use of the senses of equilibrium, smell, and taste. Additionally, they must have sufficient motor function to permit them to carry out the activities described in the sections that follow. They must be able to consistently, quickly, and accurately integrate all information received by whatever sense(s) employed, and they must have the intellectual ability to learn, integrate, analyze, and synthesize data.

A candidate for the Pharm.D. degree must have abilities and skills of five varieties including:

- Observation
- Communication
- Motor
- Intellectual-Conceptual, Integrative, and Quantitative Abilities
- Behavioral and social

Technological compensation can be made for some handicaps in certain of these areas, but a candidate should be able to perform in a reasonably independent manner. The use of a trained intermediary means that a candidate's judgment must be mediated by someone else's power of selection and observation. For details, see the Technical Standards document published online (http://pharmacy.hsc.wvu.edu/media/1960/technical-standards-revised-november-17-2015.pdf).

Student Course Load

Students in the Doctor of Pharmacy program are expected to register for all required classes in a semester unless directed not to do so by the Committee on Academic and Professional Standards or the Office of Admissions and Student Affairs. Full-time students in the School of Pharmacy may not register for less than nine credit hours during any semester without written approval of the Committee on Academic and Professional Standards. For an exception, a letter of petition must be submitted to the Committee on Academic and Professional Standards through the School of Pharmacy's Office of Admissions and Student Affairs.

Promotion and Graduation Requirements

EVALUATION OF STUDENT PROGRESS

Promotion of a student in the Doctor of Pharmacy program is evaluated in two major areas: successful completion of all curricular and co-curricular requirements, and appropriate adherence to the professional standards of the School of Pharmacy.

The following information is only a brief outline of the School of Pharmacy policies and procedures. Detailed requirements and policies for evaluation of student progress and graduation can be found in the *Policy on Academic and Professional Standards Governing the Doctor of Pharmacy Degree Program at West Virginia University School of Pharmacy* and may be viewed on the School of Pharmacy website. Copies are available at the Office of Admissions and Student Affairs. The Committee on Academic and Professional Standards administers all promotion and academic penalty rules.

ACADEMIC COURSEWORK REVIEW

The Committee on Academic and Professional Standards of the School of Pharmacy reviews the performance of each student in every course at the end of each academic period.

The Committee will impose sanctions for failure to meet academic standards requirements of the program. This includes, but is not limited to, the following circumstances:

- Receipt of a grade of less than C or P in a required course, including professional electives and dual degree coursework
- Failure to maintain enrollment in all required professional courses as part of the established curriculum
- Failure to maintain a School of Pharmacy cumulative GPA # 2.5
- Failure to meet the terms of academic sanction or remediation letters
- A specific academic deficiency such as an important clinical skill that has not been mastered
- Failure to complete all requirements for graduation within five years of initial enrollment into the School of Pharmacy, unless approved by the Dean
- Failure to meet the technical standards

Sanction that can be imposed include remedial changes in a student's curriculum, academic probation, academic suspension, and academic dismissal from the School of Pharmacy.

Students on probation are not eligible to hold office in student organizations or receive School of Pharmacy scholarships. Students on probation are expected to be present for all of their classes and laboratories. Students failing to complete any required remedial actions or meet the specified performance requirements during the probationary period may be subject to academic suspension or dismissal.

After academic dismissal, a student may apply for readmission to the School of Pharmacy. Readmission of a student is the decision of the Admissions Committee following a recommendation by the Committee on Academic and Professional Standards.

GRADING POLICY

Courses in the Doctor of Pharmacy degree program are graded either as A (excellent), B (good), C (fair), D (less than satisfactory), F (failing), I (incomplete), or on a (P) pass/(F) fail basis. Grades may be accompanied by a narrative report on the student's progress, noting any factors requiring remedial work or counseling. It is customary that all experiential courses are accompanied by a narrative evaluation.

The grade of incomplete (I) is given when the instructor believes that the work is unavoidably incomplete. If the grade of I is not removed by the satisfactory completion of the work before the end of the next semester in which the student is in residence, it becomes a failure (F) unless special permission to postpone the work is obtained from the course coordinator of record. It is the responsibility of the student to consult the instructor about the means and schedule for completing incomplete courses. A contract specifying what work must be completed and when should be drawn up by the instructor and signed by the instructor and student.

PROFESSIONAL STANDARDS REVIEW

In view of public and professional responsibilities, the faculty of each of the professional schools of WVU has the authority to recommend the removal of any student from its program whenever, by formal decision reduced to writing, the faculty finds that the student is unfit to meet the qualifications and responsibilities of the profession. Further information is provided in The Policy on Academic and Professional Standards Governing the Doctor of Pharmacy Degree at West Virginia University School of Pharmacy, which is available at the School of Pharmacy Office of Admissions and Student Affairs.

Special Requirements

The Board of Pharmacy requires 1,500 clock hours of internship experience for licensure in West Virginia. Students are required to obtain an Intern Certificate from the West Virginia Board of Pharmacy in order to accrue intern hours. Any hours worked before becoming a registered intern will not apply toward meeting the WV board requirements. Students must have a valid Intern Certificate throughout their entire experiential years of the Pharm.D. program. The Board of Pharmacy holds final authority over internship rules and regulations. All 1,500 hours required by the WV Board of Pharmacy may be obtained via the WVU School of Pharmacy experiential program.

Students in the Pharm.D. program will perform one four-week experiential rotation in a community pharmacy setting at the conclusion of the first year and a two-week experiential rotation in an institutional pharmacy setting at the conclusion of the second year of the professional curriculum. Students complete eight, five-week advanced pharmacy practice experiences (APPE) during the final year of the program. One to two rotations are performed in rural/geographically diverse locations throughout West Virginia. Site placement and sequencing will occur in the semesters prior to the experiential activities. Students may incur additional housing and/or travel costs when taking part in the experiential rotations. Opportunity will be provided for students to prioritize their site selection; however, ultimate authority for site selection will be maintained by the School of Pharmacy. All didactic coursework (required and elective) must be successfully completed prior to beginning the fourth-year APPE experiential rotations.

Legal Requirements

To qualify for examination for licensure by the West Virginia Board of Pharmacy, information can be found at the West Virginia Board of Pharmacy website (https://www.wvbop.com/).

Interns must be registered with the West Virginia Board of Pharmacy and must be enrolled in or a graduate of an accredited school of pharmacy to gain experience acceptable for the internship requirement. Details may be obtained from the Office of Admissions and Student Affairs.

Course Exemptions

A student who seeks exemption from one or more professional courses based upon previous academic experience must submit a written petition to the Committee on Academic and Professional Standards. Only courses taken through an accredited school of pharmacy or medicine will be considered for possible substitution.

Admissions for 2025-2026

Undergraduate Admissions

First-time freshmen and undergraduate transfer students may apply through the main WVU application. Applicants should note "pharmacy" as their major of choice. Upon application evaluation, the applicant is automatically admitted to the direct admit pathway (https://pharmacy.hsc.wvu.edu/student-services/pre-pharmacy/direct-admit-pathway-pre-pharmacy-program/) if they meet the criteria. If the applicant does not meet the requirements for the Direct Admit Pathway (DAP) program, they are admitted to the Healthcare Pathways with Pharmacy Interest major. Students may continue to update test scores, GPA and other means of meeting the math requirement for the DAP program through August 1 of the admissions year.

PharmD Admissions

Admissions are competitive. Criteria used to evaluate candidates include academic performance, as measured by the grade point averages (GPA) for all the above-noted prerequisite courses and the cumulative GPA achieved in all prior college-level coursework, a personal statement, letters of recommendation, and a personal interview. Prerequisite courses may be taken at an accredited U.S. or foreign institution of higher education and completed with a grade of C or better. Careful consideration is given to those personal qualifications which bear upon the fitness of applicants for the study and practice of the profession of pharmacy.

All applicants must first file an initial electronic application with the Pharmacy College Application Service (PharmCAS). Instructions for completing the application are found on the PharmCAS website: http://www.pharmcas.org/. Application deadlines are subject to change; check PharmCAS, the School of Pharmacy website at http://pharmacy.hsc.wvu.edu, or contact the School to verify current deadlines. It is recommended students apply early as the PharmD Program operates on a rolling admissions basis.

Each applicant recommended for acceptance is required to pay a deposit of $100 before their name is added to the official list of those accepted by the School of Pharmacy. If the applicant enrolls, this sum is applied to the first semester tuition. If the applicant fails to enroll, this deposit is forfeited.

With enrollment in the School of Pharmacy, all students must comply with the immunization and diagnostic procedures required by the WVU Board of Governors, WVU, the WVU Health Sciences Center, and the School of Pharmacy.

Complete information may be obtained from http://pharmacy.hsc.wvu.edu/students/

Personal Interview

The Admissions Committee requires a personal interview with selected candidates. Interviews are held during the fall and spring semesters at the WVU Health Sciences Center in Morgantown.

Letters of Recommendation

A total of three recommendations are required. One academic recommendation is required and must be provided by a course instructor in any of the pre-pharmacy course requirements. The second and third recommendation may be provided by a variety of individuals including a second faculty member or advisor, employer, etc. Please refer to the PharmCAS or the School's PharmD Admissions page (pharmacy.hsc.wvu.edu/student-services/pharmd-admissions) for a list of appropriate letter sources.

Admission to Advanced Standing for Transfer Students

If space is available, students from other accredited schools of pharmacy may be admitted provided they meet the prerequisite course requirements of the WVU School of Pharmacy, have at least a 2.5 professional grade point average, are in good academic and professional standing at the school of origin, and are eligible for continuation toward a degree in pharmacy at the school initially attended. Grades of D in professional courses cannot be transferred.

Provisional Admission

An applicant accepted into the first year or an advanced standing transfer student is expected to have met all entrance requirements and satisfactorily completed all pre-pharmacy coursework in progress prior to matriculation. A satisfactory performance in the completion of such coursework is defined as one that is consistent with the student's previous academic record and must include no grades of D or lower in prerequisite courses. While it is preferred that all prerequisite coursework be completed by the end of the spring term prior to matriculation, it is possible to complete up to two non-sequential prerequisite courses before the start of pharmacy student orientation in the fall semester of matriculation. Failure to do so will result in revocation of the acceptance by the Admissions Committee.

Admitted students must remain free of any violations of local, state, or federal law that would prohibit their ability to obtain an intern license from the West Virginia Board of Pharmacy.

Furnishing or causing to furnish false or incorrect information for the purpose of gaining admission to the School of Pharmacy constitutes grounds for disciplinary action including, but not limited to, expulsion or revocation of acceptance.

Students in the School of Pharmacy agree to abide by the provisions of the Student Code of Academic and Professional Integrity. Upon admission, each student is required to return a signed statement to the Office of Admissions and Student Affairs indicating the student has read and understands the Policy on Academic and Professional Standards and the Student Code of Academic and Professional Integrity of the West Virginia University School of Pharmacy. The code and copies of the statement are available in the Office of Admissions and Student Affairs in the School of Pharmacy and on the School of Pharmacy website.

Academic and Technical Standards and Policies

http://pharmacy.hsc.wvu.edu/student-services/pharmd-program/

Direct Admit Major Code: 8948

Healthcare Pathway Major Code: 1160 (Pharmacy Interest Code G011)

General Education Foundations

Please use this link to view a list of courses that meet each GEF requirement. **(**http://registrar.wvu.edu/gef/**)**

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

Code	Title	Hours
General Education Foundations		
F1 - Composition & Rhetoric		3-6
ENGL 101 & ENGL 102 or ENGL 103	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing	
F2A/F2B - Science & Technology		4-6
F3 - Math & Quantitative Reasoning		3-4
F4 - Society & Connections		3
F5 - Human Inquiry & the Past		3
F6 - The Arts & Creativity		3
F7 - Global Studies & Diversity		3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree)		9
Total Hours		31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

The awarding of a doctor of pharmacy degree to a student is approved by the dean of the School of Pharmacy after receipt of recommendations from the Academic and Professional Standards Committee. Candidates must meet the following criteria:

1. Meet the academic and professional standards, criteria, and requirements outlined in The Policy on Academic and Professional Standards Governing the Doctor of Pharmacy Degree at West Virginia University School of Pharmacy, which is available at the School of Pharmacy Office of Admissions and Student Affairs and on the school's website.
2. Satisfactorily complete all of the required coursework in a timely fashion, which may not exceed five years from the date of initial enrollment into the professional program.
3. Pay all fees.
4. Complete coursework as a cohort; students cannot progress to the next year's coursework without satisfactorily completing all previous year's academic requirements.
5. Satisfactorily complete the required number of experiential rotations and demonstrate the attainment of minimum competencies.
6. Complete 100 hours of volunteer community service.

Curriculum Requirements

Code	Title	Hours
Biochemistry Requirement		
Select one of the following:		3
AGBI 410 & 410L	Introductory Biochemistry and Introduction to Biochemistry Laboratory	
BMM 339	Introduction to Human Biochemistry	
Biology Requirement		
Select one of the following BIOL 115 preferred - (May fulfill GEF 2): [*]		4
BIOL 115 & 115L	Principles of Biology and Principles of Biology Laboratory	
BIOL 101 & BIOL 102 & 101L & BIOL 102L	General Biology 1 and General Biology 2 and General Biology 1 Laboratory and General Biology 2 Laboratory	
BIOL 117 & 117L	Introductory Physiology and Introductory Physiology Laboratory (May fulfill GEF 8)	4
Chemistry Requirement		
CHEM 115 & 115L	Fundamentals of Chemistry 1 and Fundamentals of Chemistry 1 Laboratory (May fulfill GEF 8)	4
CHEM 116 & 116L	Fundamentals of Chemistry 2 and Fundamentals of Chemistry 2 Laboratory (May fulfill GEF 8)	4
CHEM 233 & 233L	Organic Chemistry 1 and Organic Chemistry 1 Laboratory	4
CHEM 234 & 234L	Organic Chemistry 2 and Organic Chemistry 2 Laboratory	4
Economics Requirement		
ECON 201	Principles of Microeconomics (May fulfill GEF 4)	3
English Requirement		
ENGL 101	Introduction to Composition and Rhetoric (May fulfill GEF 1)	3
ENGL 102	Composition, Rhetoric, and Research (May fulfill GEF 1)	3
Math Requirement		
Select one of the following (May fulfill GEF 3):		3
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
Microbiology Requirement		
Select one of the following:		3
AEM 341 & 341L	General Microbiology and General Microbiology Laboratory	
AEM 401 & 401L	Environmental Microbiology and Environmental Microbiology Laboratory	
MICB 200	Medical Microbiology	
Physiology Requirement		
PSIO 241	Elementary Physiology	4
or BIOL 235	Human Physiology	
Public Speaking Requirement		
WVUE 270	Effective Public Speaking	3
Statistics Requirement		
STAT 211	Elementary Statistical Inference	3
or ECON 225	Elementary Business and Economics Statistics	
General University Orientation Requirement		
PHAR 191	First-Year Seminar	1

General Education Foundations	
GEF Requirements 5, 6, 7	9
Total Hours	62

*

 BIOL 101, 102, 103, and 104 are equivalent to BIOL 115.

PHARMACY REQUIREMENTS

Code	Title	Hours
PALM 301	Principles of Human Anatomy	3
PSIO 541	Integrative Physiology	4
PHAR 703	Pharmacy Practice Experience 1	1
PHAR 710	Pharmacy Practice Experience 2	1
PHAR 800	Introduction to Pharmacy	4
PHAR 801	Drug Delivery	5
PHAR 802	Preparation of Pharmaceutical Products	1
PHAR 807	Pharmacy Calculations	1
PHAR 810	Community Pharmacy Practice	2
PHAR 811	Foundational Pharmacy Skills	1
PHAR 812	Drug Chemistry	2
PHAR 813	Biopharmaceutics and Pharmacogenomics	4
PHAR 814	Biochemical Pharmacology	4
PHAR 815	Self-Care	3
PHAR 817	Principles of Immunology and Microbiology	2
Community Rotation Rerquement		4
PHAR 818	Intro Community Rotation	
PHAR 820	Population Health and Policy	3
PHAR 821	Pain	1
PHAR 823	Pulmonology	2
PHAR 824	Cardiology	5
PHAR 826	Evidence-Based Practice	3
PHAR 825	Nephrology	2
PHAR 830	Health Systems Pharmacy Practice	2
PHAR 833	Endocrinology	3
PHAR 835	Autoimmune Diseases	2
PHAR 836	Research in Pharmacy	1
PHAR 837	Quality and Outcomes in Pharmacy Practice	2
Institutional Rotation Rerquement		2
PHAR 838	Intro Institutional Rotation	
PHAR 840	Pharmacy Practice Management	3
PHAR 843	Gastroenterology and Nutrition	2
PHAR 844	Infectious Diseases	3
PHAR 845	Neurology and Psychiatry	4
PHAR 848	Acute Care Practice Experience	2
PHAR 849	Ambulatory Care Practice Experience	2
PHAR 853	Hematology/Oncology	3
PHAR 854	Special Populations	3
PHAR 858	Comprehensive Assessment of Practice	3
PHAR 857	Pharmacy Ethics	1
PHAR 859	Pharmacy Law	2
Rotations		40
PHAR 760	Acute Care Rotation 1	
PHAR 761	Acute Care Rotation 2	

PHAR 762	Ambulatory Care Rotation 1
PHAR 763	Ambulatory Care Rotation 2
PHAR 764	Elective Rotation 1
PHAR 765	Elective Rotation 2
PHAR 766	Selective Rotations
PHAR 770	Community Rotation
PHAR 772	Institutional Rotation

Current Topics Requirement		2
PHAR 860	Current Topics in Pharmacy	
Electives (only approved professionally related courses)		8
Selected from the following (ACCT, ASP, BADM- 3 credit hours only, BIOL, BUSA, C&I, CHEM, COUN, CSAD, COMM, CHPR, DISB, ENGL, ENTR, EDP, EPID, FIN, GEN, GERO, GRAD, HIED, HPML, IDT, HN&F, LDR, NSG, OEHS, PHAR, PHIL, POLS, PUBA, PUBH, RELG, SBHS, SHED, SOC, STAT, WGST)		
Total Hours		148

Suggested Plan of Study

First Year

Fall	Hours	Spring	Hours	Summer	Hours
PALM 301		3 PHAR 810		2 PHAR 818	4
PSIO 541		4 PHAR 811		1	
PHAR 800		4 PHAR 812		2	
PHAR 801		5 PHAR 813		4	
PHAR 802		1 PHAR 814		4	
PHAR 807		1 PHAR 815		3	
PHAR 703		1 PHAR 817		2	
		PHAR 710		1	
	19		19		4

Second Year

Fall	Hours	Spring	Hours	Summer	Hours
PHAR 820		3 PHAR 821		1 PHAR 838	2
PHAR 823		2 PHAR 825		2	
PHAR 824		5 PHAR 830		2	
PHAR 826		3 PHAR 833		3	
Elective		2 PHAR 835		2	
		PHAR 836		1	
		PHAR 837		2	
		Elective		2	
	15		15		2

Third Year

Fall	Hours	Spring	Hours	Summer	Hours
PHAR 840		3 PHAR 853		3 Complete 2 rotations from the following:	10
PHAR 843		2 PHAR 854		3 PHAR 760	
PHAR 844		3 PHAR 858		3 PHAR 761	
PHAR 845		4 PHAR 859		2 PHAR 762	
Select 1 of the following:		2 PHAR 857		1 PHAR 763	
PHAR 848		Select course not yet completed:		2 PHAR 764	
PHAR 849		PHAR 848		PHAR 765	
Elective		2 PHAR 849		PHAR 766	
		Elective		2 PHAR 770	

		PHAR 772	
	16	16	10

Fourth Year

Fall	Hours	Spring	Hours
PHAR 860	1	PHAR 860	1
Complete 3 rotations from the following of those not yet completed:[*]	15	Complete 3 rotations from the following of those not yet completed:	15
PHAR 760		PHAR 760	
PHAR 761		PHAR 761	
PHAR 762		PHAR 762	
PHAR 763		PHAR 763	
PHAR 764		PHAR 764	
PHAR 765		PHAR 765	
PHAR 766		PHAR 766	
PHAR 770		PHAR 770	
PHAR 772		PHAR 772	
	16		16

Total credit hours: 148

[*]
Prior to beginning the experiential rotations, each student enrolled in the School of Pharmacy professional program must complete a minimum of eight credit hours of school of pharmacy elective courses or courses from a list of approved professionally-related electives as part of the pharmacy curriculum. Electives must be completed during the first three years of the four-year professional program. No course taken prior to admission into the School of Pharmacy may be used nor repeated to meet the elective requirements of the professional curriculum, and no reduction in elective requirements will be allowed for courses completed or degrees earned prior to enrollment in the program.

This program has specific admission criteria for students who are not continuing the pursuit of the PharmD degree, and have not already completed a bachelor's degree.

Curriculum Requirements

Code	Title	Hours
University Requirements		46
Pre-Pharmacy Requirements		43
Pharmacy Requirements		31
Total Hours		120

University Requirements

Code	Title	Hours
General Education Foundations (GEF) 1, 2, 3, 4, 5, 6, 7, and 8 (31-37 Credits)		
Outstanding GEF Requirements 1, 5, 6, and 7		15
PHAR 191	First-Year Seminar	1
General Electives		30
Total Hours		46

Pre-Pharmacy Requirements

Code	Title	Hours
Biology Requirement		**8**
BIOL 115 & 115L	Principles of Biology and Principles of Biology Laboratory	
BIOL 117 & 117L	Introductory Physiology and Introductory Physiology Laboratory	
OR		

Code	Title	Hours
BIOL 101 & 101L & BIOL 102 & BIOL 102L	General Biology 1 and General Biology 1 Laboratory and General Biology 2 and General Biology 2 Laboratory	
General Chemistry Requirement		**8**
CHEM 115 & 115L	Fundamentals of Chemistry 1 and Fundamentals of Chemistry 1 Laboratory	
CHEM 116 & 116L	Fundamentals of Chemistry 2 and Fundamentals of Chemistry 2 Laboratory	
Organic Chemistry Requirement		**8**
CHEM 233 & 233L	Organic Chemistry 1 and Organic Chemistry 1 Laboratory	
CHEM 234 & 234L	Organic Chemistry 2 and Organic Chemistry 2 Laboratory	
Calculus Requirement		**3**
Select one of the following:		
MATH 150	Applied Calculus	
MATH 153 & MATH 154	Calculus 1a with Precalculus and Calculus 1b with Precalculus	
MATH 155	Calculus 1	
Economics Requirement		
ECON 201	Principles of Microeconomics	3
Microbiology Requirement		**3**
Select one of the following:		
AEM 341 & 341L	General Microbiology and General Microbiology Laboratory	
AEM 401 & 401L	Environmental Microbiology and Environmental Microbiology Laboratory	
MICB 200	Medical Microbiology	
Physiology Requirement		**4**
Select one of the following:		
PSIO 241	Elementary Physiology	
BIOL 235	Human Physiology	
Public Speaking Requirement		
WVUE 270	Effective Public Speaking	3
Statistics Requirement		**3**
Select one of the following:		
ECON 225	Elementary Business and Economics Statistics	
STAT 211	Elementary Statistical Inference	
Total Hours		43

Pharmacy Requirements

Code	Title	Hours
Biochemistry Requirement		**3**
Select one of the following:		
AGBI 410	Introductory Biochemistry	
BMM 339	Introduction to Human Biochemistry	
Pharmacy Requirements		**26**
PALM 301	Principles of Human Anatomy	
PSIO 541	Integrative Physiology	
PHAR 703	Pharmacy Practice Experience 1	
PHAR 710	Pharmacy Practice Experience 2	
PHAR 800	Introduction to Pharmacy	

PHAR 801	Drug Delivery	
PHAR 802	Preparation of Pharmaceutical Products	
PHAR 807	Pharmacy Calculations	
PHAR 810	Community Pharmacy Practice	
PHAR 811	Foundational Pharmacy Skills	
PHAR 812	Drug Chemistry	
PHAR 813	Biopharmaceutics and Pharmacogenomics	
PHAR 814	Biochemical Pharmacology	
PHAR 815	Self-Care	
PHAR 817	Principles of Immunology and Microbiology	
PHAR 820	Population Health and Policy	
PHAR 821	Pain	
PHAR 823	Pulmonology	
PHAR 824	Cardiology	
PHAR 825	Nephrology	
PHAR 826	Evidence-Based Practice	
PHAR 830	Health Systems Pharmacy Practice	
PHAR 833	Endocrinology	
PHAR 835	Autoimmune Diseases	
PHAR 836	Research in Pharmacy	
PHAR 837	Quality and Outcomes in Pharmacy Practice	
Capstone		**2-4**
Select one of the following:		
PHAR 749	Pharmaceutical Investigation (2 Credits)	
PHAR 818	Intro Community Rotation (4 Credits)	
Total Hours		31

Dual Degree

- Doctor of Pharmacy/Master of Health Administration

PharmD Requirements

Code	Title	Hours
PALM 301	Principles of Human Anatomy	3
PSIO 541	Integrative Physiology	4
PHAR 703	Pharmacy Practice Experience 1	1
PHAR 710	Pharmacy Practice Experience 2	1
PHAR 800	Introduction to Pharmacy	4
PHAR 801	Drug Delivery	5
PHAR 802	Preparation of Pharmaceutical Products	1
PHAR 807	Pharmacy Calculations	1
PHAR 810	Community Pharmacy Practice	2
PHAR 811	Foundational Pharmacy Skills	1
PHAR 812	Drug Chemistry	2
PHAR 813	Biopharmaceutics and Pharmacogenomics	4
PHAR 814	Biochemical Pharmacology	4
PHAR 815	Self-Care	3
PHAR 817	Principles of Immunology and Microbiology	2
Community Rotation Requirement		4
PHAR 818	Intro Community Rotation	
PHAR 820	Population Health and Policy	3
PHAR 821	Pain	1
PHAR 823	Pulmonology	2

PHAR 824	Cardiology	5
PHAR 826	Evidence-Based Practice	3
PHAR 825	Nephrology	2
PHAR 830	Health Systems Pharmacy Practice	2
PHAR 833	Endocrinology	3
PHAR 835	Autoimmune Diseases	2
Research in the Pharmaceutical Sciences		2
PHAR 836	Research in Pharmacy	
PHAR 837	Quality and Outcomes in Pharmacy Practice	2
Intro to Institutional Rotation (repeated for a total of 2 credit hours)		2
PHAR 838	Intro Institutional Rotation	
PHAR 840	Pharmacy Practice Management	3
PHAR 843	Gastroenterology and Nutrition	2
PHAR 844	Infectious Diseases	3
PHAR 845	Neurology and Psychiatry	4
PHAR 848	Acute Care Practice Experience	2
PHAR 849	Ambulatory Care Practice Experience	2
PHAR 853	Hematology/Oncology	3
PHAR 854	Special Populations	3
PHAR 858	Comprehensive Assessment of Practice	3
PHAR 859	Pharmacy Law	2
Rotations		40
PHAR 760	Acute Care Rotation 1	
PHAR 761	Acute Care Rotation 2	
PHAR 762	Ambulatory Care Rotation 1	
PHAR 763	Ambulatory Care Rotation 2	
PHAR 764	Elective Rotation 1	
PHAR 765	Elective Rotation 2	
PHAR 766	Selective Rotations	
PHAR 770	Community Rotation	
PHAR 772	Institutional Rotation	
Current Topics Requirement		2
PHAR 860	Current Topics in Pharmacy	
Total Hours		140

MHA Requirements

Code	Title	Hours
Minimum GPA of 3.0 is required.		
HPML 510	Health Economics	3
HPML 522	Introduction to Data Analytics for Health Administrators	3
HPML 523	Healthcare Finance	3
HPML 555	Health Services Project Management	3
HPML 556	Managerial Epidemiology & Strategy	3
HPML 575	Health Insurance & Revenue Cycle	3
HPML 659	Comprehensive Experience in Healthcare Management	3
Graduate Seminar		2
HPML 696	Graduate Seminar	
Total Hours		23

Suggested Plan of Studies

First Year

Fall	Hours	Spring	Hours	Summer	Hours
PALM 301	3	PHAR 810	2	Intro Community Rotation	4
PSIO 541	4	PHAR 811	1	PHAR 818	
PHAR 800	4	PHAR 812	2		
PHAR 801	5	PHAR 813	4		
PHAR 802	1	PHAR 814	4		
PHAR 807	1	PHAR 815	3		
PHAR 703	1	PHAR 817	2		
		PHAR 710	1		
	19		19		4

Second Year

Fall	Hours	Spring	Hours	Summer	Hours
PHAR 820	3	PHAR 821	1	Intro Institutional Rotation	2
PHAR 823	2	PHAR 825	2	PHAR 838	
PHAR 824	5	PHAR 830	2		
PHAR 826	3	PHAR 833	3		
HPML 522	3	PHAR 835	2		
HPML 575	3	Research in the Pharmaceutical Sciences	2		
		PHAR 836			
		PHAR 837	2		
		HPML 555	3		
	19		17		2

Third Year

Fall	Hours	Spring	Hours	Summer	Hours
PHAR 840	3	PHAR 859	2	Complete 2 rotations from the following:	10
PHAR 843	2	Hematology/Oncology	3	PHAR 760	
PHAR 844	3	PHAR 854	3	PHAR 761	
PHAR 845	4	PHAR 858	3	PHAR 762	
Select 1 of the following:	2	Select course not yet completed:	2	PHAR 763	
PHAR 848		PHAR 848		PHAR 764	
PHAR 849		PHAR 849		PHAR 765	
HPML 510	3	HPML 523	3	PHAR 766	
		HPML 696	1	PHAR 770	
				PHAR 772	
	17		17		10

Fourth Year

Fall	Hours	Spring	Hours
PHAR 860	1	PHAR 860	1
Complete 3 rotations from the following of those not yet completed:[*]	15	Complete 3 rotations from the following of those not yet completed:	15
PHAR 760		PHAR 760	
PHAR 761		PHAR 761	
PHAR 762		PHAR 762	

PHAR 763		PHAR 763	
PHAR 764		PHAR 764	
PHAR 765		PHAR 765	
PHAR 766		PHAR 766	
PHAR 770		PHAR 770	
PHAR 772		PHAR 772	
HPML 556	3	HPML 659	3
HPML 696	1		
	20		19

Total credit hours: 163

Areas of Emphasis Offered:

- College Teaching in Pharmacy (p. 14)
- Geriatric Pharmacy (p. 15)
- Global Health (for Pharmacy) (p. 15)
- Health Outcomes and Informatics (p. 16)
- Residency Preparation (p. 18)
- Translational Pharmacy Research (p. 17)

College Teaching in Pharmacy Area of Emphasis

The area of emphasis has three major requirements: a pharmacy-specific pedagogy course; elective course options from across the university; and a pharmacy teaching experience.

Eligibility and Deadlines:

Students must be currently enrolled in the Doctor of Pharmacy program and in good academic standing. Up to five students will be enrolled per year. Students must complete an application for admission to the area of emphasis program. Applications are due by November 30 of each year. Enrollment at other times may be considered if spots are available. Applicants must provide:

1) a cover letter or email with intent to enroll

2) a brief essay describing the applicant's future career goals and what they gain through completion of the Area of Emphasis

3) a current curriculum vitae

4) an unofficial transcript will be accessed to verify GPA requirement.

Code	Title	Hours
Required Course		
PHAR 743	Teach to Learn: Learn to Teach	2
Required Teaching Experience - Select one of the following:		**1-5**
PHAR 764	Elective Rotation 1	
PHAR 765	Elective Rotation 2	
PHAR 790	Teaching Practicum	
Elective Course Options [*]		**6**
PHAR 749	Pharmaceutical Investigation (Research project must be teaching related and approved prior to registration; can register for 1 - 2 credit hours only.)	
C&I 643	Brain-Based Teaching and Learning	
C&I 687	Advanced Teaching Strategies	
C&I 689	Cultural Diversity in the Classroom	
C&I 789	Teaching in Higher Education	
EDP 600	Educational Psychology	
EDP 640	Instructional Design	
EDP 700	Psychological Foundations of Learning	
GRAD 593	Special Topics (Accessible Teaching)	
GRAD 593	Special Topics (Readability in the Online Course)	

GRAD 593	Special Topics (Designing Scenarios to Engage Students)	
GRAD 680	Classroom Assessment Techniques	
GRAD 693	Special Topics (Teaching Different Cultures)	
GRAD 710	Scholarly Teaching	
GRAD 793	Special Topics (Scholarship of Teaching and Learning)	
HIED 651	College Student Development	
HIED 693	Special Topics (Women & Gender Issues in Higher Education)	
HIED 750	Diversity Issues in Higher Education	
HIED 760	Curriculum Development and Reform in Higher Education	
HIED 763	International Higher Education	
IDT 655	Technology for Teachers	
IDT 693	Special Topics (Online Teaching and Learning)	
WGST 593	Special Topics (Gender and Sexuality Theory)	
Other courses may be added to the list as they become available.		
Total Hours		9

Geriatric Pharmacy Area of Emphasis

Eligibility and Deadlines:

Students must be currently enrolled in the Doctor of Pharmacy program and in good academic standing. Students will complete an application for admission to the area of emphasis program, including the following elements:

1) a letter/email regarding your intent to enter the program

2) a brief description/essay describing the applicant's future career goals and what you expect to gain through completion of the Area of Emphasis

3) a current Curriculum Vitae (CV)

Code	Title	Hours
GERO 681	Rural Gerontology	3
PHAR 751	Geriatrics	2
Public Policy of Aging		3
GERO 412	Public Policy of Aging	
GERO 512	Public Policy of Aging	
Students must choose one additional course from the approved electives listed below.		**2**
COMM 693	Special Topics (Communication in Later Life)	
GERO 645	Fundamentals of Gerontology	
GERO 628	Aging Women & Cultural Issues	
PHAR 749	Pharmaceutical Investigation	
PHAR 764	Elective Rotation 1 (Geriatrics or Long-Term Care)	
Total Hours		10

Global Health (for Pharmacy) Area of Emphasis Requirements

The area of emphasis program in global health (for pharmacy) trains students to be able to provide patient-centered care at home and abroad. Its focus is on providing both didactic and experiential education that will allow students to have an understanding and an appreciation for the global nature of healthcare and how pharmacy practice can impact individuals and populations worldwide. More information can be found on the School's webpage at http://pharmacy.hsc.wvu.edu (https://pharmacy.hsc.wvu.edu/).

Application Process:
All Pharm.D students in good standing are eligible to apply for acceptance during the fall of their P2 year. Information will be emailed to students regarding the specific date that applications are due.

Applications will include:
1) an essay describing the applicant's future career goals and what they expect to gain through completion of the Area of Emphasis
2) a current Curriculum Vitae
3) professional grade point average will be accessed through the Office of Admissions and Student Affairs

Code	Title	Hours
PHAR 778	Travel Medicine and Global Pharmacy Practice	2
Select one of the following:		5
PHAR 764	Elective Rotation 1	
PHAR 765	Elective Rotation 2	
Select one of the following*:		3-4
ANTH 350	Latin American Culture	
ASP 220	Introduction to Africana Studies	
COMM 309	Health Communication	
COMM 316	Intercultural Communication	
PUBH 605	Introduction to Global Public Health	
POLS 250	Introduction to Comparative Politics	
POLS 260	Introduction to International Relations	
POLS 363	International Law	
PUBH 201	Global Perspectives of Public Health	
RELG 231	Religions of China and Japan	
• or course not on the list with pre-approval by the Global Health for Pharmacy advisors. Of note, students are responsible for checking on the semester-by-semester availability and any potential pre-requisites required for any of the following courses.		
Total Hours		10

EXPERIENTIAL ROTATION REQUIREMENT

Students will complete one international APPE. Currently available international rotations include South Africa, Oman, Brazil, and Thailand. Students in the AoE program will not be guaranteed an international rotation and must go through the standard application process for selection for these international rotations. If students are unable to successfully complete an international APPE, they will not meet the requirements for completion of the AOE.

ADDITIONAL REQUIREMENTS

1) All students will have to complete either: a) an APPE that takes place in an underserved community, such as a rotation in Alaska, one with the Indian Health Service, or one at a Federally Qualified Health Center (e.g., Cabin Creek, Camden-on-Gauley), or b) an approved summer internship or medical mission that contains a global health emphasis.   The summer internship or medical mission must be focused on global health and be of a minimum duration of 2 weeks; this requirement could be completed all at once or via multiple internships/medical missions but a total duration of 2 weeks is required. The school will maintain a list of approved internships when possible. However, the student may inquire about the acceptability of other programs which are not listed.

2) All students will serve as Global Health Ambassadors for international students visiting the West Virginia University School of Pharmacy when they are in Morgantown. The Ambassador's role will require students to: a) organize and host social events outside of the School of Pharmacy attempting to incorporate the visiting students' wishes into the planned activities, and b) organizing and participating as School of Pharmacy representatives during the HSC's Global Health Week.

All students must remain in good academic standing in the Doctor of Pharmacy program to remain in the area of emphasis program. Students on probation in the Doctor of Pharmacy program will be evaluated by the Academic Standards committee and may be removed from the area of emphasis program.

Health Outcomes and Informatics Area of Emphasis Requirements

Code	Title	Hours
Required Courses		
PHAR 774	Managed Care Principles and Policies	1
PHAR 777	Health Outcomes Research Designs	2
PHAR 764	Elective Rotation 1	5
PHAR 793	Special Topics (Health Data Science Research)	2
Total Hours		10

ELIGIBILITY

Students must be currently enrolled in the Doctor of Pharmacy program and in good academic standing.

APPLICATION DEADLINES

Students normally apply by March 1 of their first or second professional year for admission in the fall semester of their second or third year, respectively. However, students may apply at any time. Eligible program coursework completed prior to acceptance will be applied to the program requirements.

APPLICATION PROCEDURE

An application will include the following elements:

1. a letter/email regarding your intent to enter the program
2. a brief description describing the applicant's future career goals and what you expect to gain through completion of the Area of Emphasis
3. a current Curriculum Vitae

Translational Pharmacy Research Area of Emphasis

Research is an integral component of the education and practice of pharmacy, enabling development of new information, technologies, and processes which are essential for improving patient care, therapeutics outcomes and growth of the profession. The importance of research in the profession of pharmacy is well established. The Area of Emphasis (AoE) in Translational Pharmacy Research will allow students to understand and recognize the importance of translational research (e.g., how basic sciences contributions are applied in improving the quality of patients' health, how observations in the clinic direct new scientific hypotheses, and how health services and outcomes research impacts access, cost, quality and outcomes of health care).

All Pharm.D. students in good academic standing are eligible for participation. Acceptance and continuation in the program is contingent on each student identifying a research mentor and committee members, who will guide the research progress and completion.

Students must enroll by the end of the P3 year. Applicants must provide:

- a cover letter or email with intent to enroll
- a brief essay describing the applicant's future career goals and what they to gain through completion of the Area of Emphasis
- a current curriculum vitae
- an unofficial transcript will be accessed to verify academic standing.

Course Requirements

Code	Title	Hours
Required research course:		
PHAR 749	Pharmaceutical Investigation (must register for at least 1 credit hour in two separate semesters.) [*]	2
Electives [**]		**7**
CCB 705	Journal Club	
PHAR 749	Pharmaceutical Investigation (Can repeat for 7 hours of elective credit)	
PHAR 753	Social and Behavioral Theory and Health Outcomes Research	
PHAR 755	Pharmacoeconomics	
PHAR 756	Health Survey Research Methods	
PHAR 758	Ethical and Regulatory Aspects of Clinical Research	
PHAR 764	Elective Rotation 1 (must be a research elective)	
or PHAR 765	Elective Rotation 2	
PHAR 769	Advanced Health Service Research Methods	
PHAR 773	Recent Research Advancement in Cardiology Journal Club	
PHAR 777	Health Outcomes Research Designs	
PHAR 779	Drug Discovery	
PHAR 781	Drug Metabolism	
PHAR 784	Pharmacology Journal Club	
PHAR 785	Pharmacoepidemiology	
PHAR 786	Health Services Research and Secondary Database	
PHAR 788	Graduate Seminar in Health Outcomes Research	
or PHAR 796	Graduate Seminar	
PHAR 793	Special Topics (Herbs and Supplements)	

Credit may be given for other courses that relate to a student's research project.

Written Summary of Research	
Oral Presentation to Participant's Research Committee	
Poster or Oral Presentation at Research Conference	
Total Hours	9

*

Students may complete 1-3 hours of research credit. Each credit hour equals 3 hours of laboratory or clinic based research per week.

**

Students complete 7 hours from the list of electives. Electives may not be taught each year and may have capacity limits; thus, students are instructed to consult with the director of the Area of Emphasis prior to course selection. Students are required to complete 2 hours of PHAR 749, but can complete additional hours as elective hours.

ADDITIONAL REQUIREMENTS

- Students involved in clinical research must take the CITI training for Human Research offered through WVU and which must be kept current.
- Present his/her project as a poster or oral presentation at the Annual HSC Research Day or other equivalent research meeting.
- Complete an oral presentation of the work (which is open to the public). Students that are enrolled in the AoE must attend.
- Write a summary of his/her research and findings. This project will be distributed to the certification committee members at least three weeks prior to the oral presentation. The certification committee will be comprised of the research mentor, two additional faculty members selected by the research mentor, and the AoE program director. The research mentor or one committee member can be from outside of the School of Pharmacy with prior approval by the Area of Emphasis Director.

Residency Preparation Area of Emphasis

Code	Title	Hours
Required Course:		
PHAR 776	Preparing Residency Applicants	2
Clinical Development Electives		4
Select two of the following:		
PHAR 705	Advanced Cardiology Pharmacotherapy	
PHAR 707	Drug-Induced Diseases	
PHAR 713	Oncology Pharmacotherapy	
PHAR 718	Pediatric Pharmacotherapy	
PHAR 745	Critical Care Pharmacotherapy	
PHAR 748	Acute Care Case Studies	
PHAR 751	Geriatrics	
PHAR 771	Introduction to Specialty Pharmacy	
PHAR 778	Travel Medicine and Global Pharmacy Practice	
PHAR 793	Special Topics (Substance Abuse)	
Professional Development Elective(s)		
Select 2 credit hours from the either the Clinical Development list above or the professional development list below. *		2
PHAR 721	Advocacy and Leadership	
PHAR 743	Teach to Learn: Learn to Teach	
PHAR 749	Pharmaceutical Investigation	
PHAR 779	Drug Discovery	
PHAR 793	Special Topics (Managed Care Principles and Policies)	
PHAR 796	Graduate Seminar	
PHAR 793	Special Topics (Exploring Wellness and Mindfulness in Health Care)	
Other courses may be added to the list as approved by the Curriculum Committee		
Total Hours		8

*

Any of the courses from the clinical development list above OR the professional development electives below

ADDITIONAL REQUIREMENTS

MENTORSHIP PROGRAM:

- Each student will be assigned or will identify a faculty mentor to meet with regularly to discuss career goals, progression through the program, curriculum vitae development, and other issues that arise.
- In addition, the AoE coordinator(s) will meet with the students as a group at least twice a semester to discuss global issues and professional development topics.

RESEARCH PROJECT:

- Each student must complete some type of scholarly project that is presented for dissemination in some venue. This can be a research project presented as a poster at a national meeting, a review article published in a peer-reviewed journal, a patient case series presented at the local WVU HSC research day, or any number of other options. The mentors assigned to students as part of this AoE are not necessarily scholarship mentors. Students may ask their mentors if they are able to work with them on a scholarly project; however, the onus is on the student to find an appropriate mentor and project. Students are encouraged to talk to the AoE coordinator(s) if they need assistance with completing this requirement of the AoE.

ADVANCED PHARMACY PRACTICE EXPERIENCES (APPE) ROTATIONS:

- As part of the advanced pharmacy practice experiences (APPEs), students will be required to complete an approved plan of study, which will include at least four acute or ambulatory care rotations.
- All student APPE schedules must comply with Accreditation Council for Pharmacy Education (ACPE) Standards.

APPLICATION PROCESS:

- All PharmD students in good academic standing are eligible to apply for acceptance during the fall of their second professional year.
- Applications must include a cover letter, an essay describing the applicant's future career goals and what they expect to gain through completion of the area of emphasis, and a current curriculum vitae. Additionally, an unofficial transcript will be obtained through the Office of Admissions and Student Affairs. An interview may also be included for consideration in the admission process.

Major Learning Outcomes

DOCTOR OF PHARMACY (PHARM. D.)

Educational Outcomes

Upon successful completion of the West Virginia University Doctor of Pharmacy degree program, the graduate will be able to accomplish the following educational outcomes (EOs):

EO 1 Foundational Knowledge and Skills (Learner) - Develop, integrate, and apply foundational knowledge (e.g., concepts, facts, principles) from biological, pharmaceutical, social, behavioral, administrative, and clinical sciences to evaluate the scientific literature, explain drug actions, solve therapeutic problems, and advance individual and population health.

- Acquire and demonstrate depth and breadth of knowledge of foundational scientific, clinical, socioeconomic, and humanistic concepts and skills.
- Explain how knowledge in the foundational sciences is integral to pharmacy practice.
- Integrate knowledge from foundational sciences to explain how specific drugs or drug classes work and evaluate their potential value in individuals and populations.
- Apply foundational concepts and skills to practice.
- Use scientific reasoning and critical thinking skills in practice to address problems, issues, or concerns.
- Develop and apply creative and innovative approaches to effectively resolve problems and improve patient outcomes.
- Apply an evidence-based approach to practice by identifying appropriate questions to address, using databases and other resources to retrieve information, critically analyzing and interpreting relevant scientific information and other evidence, formulating sound conclusions, and integrating the best published evidence with expertise and individual patient values/needs.
- Analyze and use epidemiologic, pharmacoeconomic, medication utilization, and quality improvement data when developing evidence-based programs and protocols.
- Apply knowledge of research methodology to design or conduct basic research, practice-based studies, or clinical trials.
- Use information technology where appropriate to enhance individual knowledge and skills.

EO 2 Communication Skills (Communicator, Educator) – Effectively communicate verbally and nonverbally when interacting with an individual, group, or organization.

- Use appropriate verbal and nonverbal communication skills with individuals or groups, including patients, health professionals and others.
- Use effective written communication skills with patients, health professionals, and others, including the development of documents pertinent to professional or organizational needs (e.g., monographs, reports).

- Educate target audiences by using the most effective method to deliver information, in coordination with other health care professionals as appropriate.
- Use technology to facilitate or enhance professional communications and presentations.

EO 3   Professionalism, Advocacy, and Leadership (Professional, Leader, Advocate) - Exhibit behaviors and values consistent with the professional trust given by patients, healthcare providers, and society; assure that patients' best interests are represented; and demonstrate responsibility for achieving shared goals regardless of position.

- Conduct pharmacy practice duties and patient care responsibilities in accordance with applicable federal, state, and local laws, statutes, and regulations, as well as professional guidelines and standards.
- Serve as an advocate, leader, and change agent for pharmacy and pharmacists' professional roles and responsibilities by implementing or participating in new, evidence-based models for cost-effective pharmacist-delivered patient care.
- Serve as an advocate for community and patient health and medication therapy needs, including disadvantaged or underserved patients and those from diverse cultural and socioeconomic backgrounds, while honoring their autonomy and dignity.
- Serve as a positive role model in actions/communications for peers and other health care providers by maintaining a high standard for personal and professional demeanor and ethical conduct.
- Respect all points of view in professional interactions while placing patients' needs and desires at the forefront.
- Demonstrate compassion, empathy, honesty, integrity, ethical behavior and altruism in all actions and communications with patients, families, and care providers.
- Develop professional competence through ongoing, active and self-directed pursuit of new knowledge and skills.
- Identify and analyze emerging health care and pharmacy issues and incorporate new roles, products and services into practice that can improve patient outcomes.
- Accept accountability and responsibility for one's words and actions.

EO 4   Self-Awareness (Insightful) – Examine and assess personal knowledge, skills, abilities, attitudes, beliefs, motivation, and emotions and strive for continual improvement.

- Conduct self-assessments on a regular basis and create, implement, evaluate, and modify as needed plans for personal improvement and continuing professional development.
- Recognize personal strengths and limitations and seek assistance when needed.
- Approach tasks and situations with flexibility and a desire to learn.
- Accept constructive criticism and display a willingness to correct and learn from errors.

EO 5   Interprofessional Collaboration (Collaborator) – Actively participate as a healthcare team member by demonstrating mutual respect, understanding, and values to meet patient care needs.

- Collaborate with health care professionals, patients, and/or caregivers to ensure that desired patient-specific or population-based health outcomes are achieved.
- Facilitate team building among health care professionals by developing and maintaining an atmosphere of mutual respect and shared values that place the patient at the forefront.
- Effectively utilize the knowledge, expertise, and unique roles of health care team providers and refer patients to others when indicated.
- Serve as the medication expert on a collaborative care team by managing the pharmacotherapy for patients' medical conditions and by proactively providing drug product and other medication related information to team members.
- Accept responsibility for medication-related outcomes on the care team.

EO 6   Patient Care (Provider) – Provide patient-centered care as the medication expert.

- Accurately interpret, prepare and/or compound, handle and dispense prescriptions for patients.
- Obtain necessary patient-specific data (e.g., consulting patient records, taking medication histories, performing basic physical assessments, ordering/interpreting lab tests), and evaluate and use these data when performing patient care related responsibilities.
- Evaluate pharmaceutical products, including information about the drug, dosage form, delivery system and cost/benefit, when conducting a medication review or preparing a care plan.
- Conduct comprehensive medication reviews and prepare individualized care plans to optimize patient outcomes, with emphasis on commonly encountered chronic or high risk conditions amenable to pharmacotherapy and patients at greater risk for adverse events.
- Work with patients, caregivers, and health care professionals to implement specific therapy plans.
- Educate and empower patients to take an active role in their health and incorporate recommendations for healthy living and self-care into care plans.
- Monitor and evaluate patients during therapy for drug product or pharmacotherapy problems, patient concerns, or adherence issues and recommend or implement solutions.
- Work with patients and other health care providers to ensure the continued success of individual care plans.

- Document patient-care services in charts/medical records and on forms needed for reimbursement.
- Counsel patients and/or caregivers about the following to help ensure a care plan's success: i) medications, non-drug therapy, dietary supplements and natural products; ii) insurance and other options for obtaining necessary medications; iii) proper use of testing devices and medical goods and equipment; and iv) healthy lifestyle changes.

EO 7   Population-Based Care (Promoter, Provider) – Design and implement prevention, intervention, and educational strategies for communities to manage chronic disease and improve health and wellness.

- Develop, recommend, and provide preventive health services, such as administration of vaccines and screening tests.
- Develop and implement disease management programs based upon identified needs and priorities (e.g., cost, access, and patient satisfaction considerations; commonly encountered, chronic conditions managed by pharmacotherapy).
- Evaluate and adjust interventions as needed to maximize population health.
- Promote public awareness of health promotion and disease prevention strategies.
- Design, develop, and disseminate public health related educational materials or services in a culturally competent manner.
- Work with health care professionals and other personnel to identify and help resolve key public health issues and problems, and participate in policies or strategies to address them.

EO 8   Pharmacy and Medication Use Systems (Manager) – Manage patient healthcare needs using human, financial, technological, and physical resources to optimize the safety and efficacy of medication use systems.

- Demonstrate knowledge of pharmacy management including operations, human and fiscal resources, marketing, and leadership principles.
- Design, use, and manage systems to prepare, dispense, distribute and administer medications to optimally serve patient's drug-related needs.
- Use knowledge of the organization and financing of the U.S. healthcare system to provide and effectively manage progressive pharmacy services.
- Develop a business plan for integrating clinical and distributive services that includes methods for supporting and obtaining reimbursement for clinical services provided to patients.
- Demonstrate and apply knowledge of national standards, guidelines, best practices, and established principles and processes for safe medication use to protect patient safety.
- Participate in quality improvement programs and employ performance indicators to enhance the quality of care and cost effectiveness of services provided and to optimize safe, appropriate medication use.
- Participate in developing and performing medication use evaluations to identify and resolve drug therapy problems or concerns.
- Reconcile a patient's medications when transitioning from one care setting to another by communicating effectively with all involved health care professionals.
- Use current and emerging information and system technologies to enhance safe and effective medication use.
- Provide recommendations for developing and managing a formulary that incorporate pharmacoeconomic principles.
- Actively participate in, and contribute to the development of, strategies to minimize drug misuse/abuse.