

# DOCTOR OF PHARMACY

Available on the Jackson Campus

Union University's Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education (ACPE, [www.acpe-accredit.org](http://www.acpe-accredit.org)), the national organization that accredits Doctor of Pharmacy programs offered by Colleges and Schools of Pharmacy in the United States and selected non-U.S. sites. Questions about the status of the University's accreditation may be posed to the Dean of the School of Pharmacy's office (731.661.5958) or to ACPE (312.664.4652).

## Mission Statement

The mission of the Union University School of Pharmacy is to develop compassionate, comprehensively trained practitioners who are equipped to meet the immediate and future demands of pharmaceutical science and patient care in an ever 103t1/T (the future-directed growth of students and faculty )Tj ET EMC /Span <</MCID 9162 >>BDC BT /T1\_2 1 T

General Electives.....	2
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Admission to the Union University School of Pharmacy is by committee action, based on the overall record and aptitude of the applicant. A minimum grade point average of 2.75 on a 4.0 scale is required for pre-pharmacy course work with a grade of "C" or higher for each required pre-pharmacy course. The cumulative grade point average, pre-pharmacy and elective course work, must be a minimum of 2.5. All candidates are required to take the Pharmacy College Admission Test (PCAT). Three references along

## Progression of Students

A period of academic probation includes the semester immediately following successful completion or successful remediation of the deficient course. The student will be notified by the Academic Standing and Progression Review (ASPR) subcommittee when the academic probationary period ends. Each semester that the student meets conditions for probation will count as a separate probationary period. Academic probation will be imposed upon a student when the student's academic performance meets any of the following conditions:

1. The cumulative grade point average earned at the conclusion of any semester, including the first semester, is less than 2.33.
2. The grade point average earned for any one semester is less than 2.00.
3. A student receives a grade of "F" in any required course. Additionally, students with outstanding deficiencies in the professional curriculum

(incomplete or "F") may not attend courses in the next semester without affirmative action by the Academic Standing and Progression Review subcommittee.

A student will be subject to a dismissal recommendation when any one or more of the following conditions are met:

1. A period of probation is imposed for a second time and the cumulative grade point average is less than 2.33. These probationary periods do not have to be sequential semesters.
2. A period of probation is imposed for a third time, regardless of the cumulative grade point average.
3. A student who receives two or more grades of "F" in required courses, regardless of the cumulative grade point average.

Students may appeal in accordance with procedures detailed under "The Appeal Process" in the Campus Life Handbook

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## Remediation

### Didactic

For students who meet defined criteria, The ASPR subcommittee will consider allowing remediation and the opportunity to continue progression through the curriculum despite setbacks in didactic courses. The following courses cannot be remediated and therefore, must be repeated: IPPEs, APPEs, introductory and advanced didactic electives. Students will be charged for remediation or retake of any course during the didactic or experiential component of the curriculum.

### Process for Remediation

The ASPR subcommittee will communicate with the Course Coordinator regarding the feasibility of remediation. Students should not discuss remediation with the Course Coordinator prior to the meeting with ASPR. The student will be notified of an academic deficiency and the need to come before the ASPR subcommittee by phone or email. This meeting will allow the student to explain and clarify the situation. The ASPR subcommittee will make a decision on the student's case. Depending on the subcommittee decision, the action will be communicated to the student during the meeting or by certified mail and/or email.

Students have the right to appeal the decision made by ASPR as outlined in the Progressions policy in the School of Pharmacy Supplement to the Campus Life Handbook.

### Qualifications for Remediation

Remediation will be considered if the student meets the following criteria:

1. The student has a final percentage average >59.5%. Students whose average is below 59.5% may be required to repeat the course in its entirety.

5. Failure in this remedial course will count as failure similar to any other course with respect to the student's official transcript, calculation of the cumulative grade point average, and academic standing.
  6. Both course grades will appear on the transcript and will be used in calculation of the student's cumulative grade point average. Academic standards are in place and failure a second time in the course(s) may have serious consequences and may result in dismissal from the program.
  7. Remediation is not a guaranteed right of the student and should be regarded as a privilege, which must be earned by a student through active participation in the educational program as demonstrated by regular class attendance,
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**706. Advanced Cardiovascular Pharmacotherapy (2)**

An elective providing the student with a more thorough study of cardiology and cardiovascular topics in application of the therapies and techniques covered.

**707. Pain Management (2)**

An elective course providing an introduction to pain management, including classifications, pain assessments, pharmacological and non-pharmacological treatment options of a variety of nociceptive and neuropathic pain syndromes (cancer pain, sickle cell disease, diabetic neuropathy, chronic pain syndromes, etc).

**708. Self-Care/Counseling (2)**

An elective course covering common medical conditions eligible for patient self-treatment. Emphasizes appropriate selection of the lifestyle modifications and over-the-counter medications and devices that are most appropriate based on disease and patient factors. Also provides an opportunity for students to practice and demonstrate patient counseling techniques.

**709. Drugs of Abuse (2)**

An elective course examining current knowledge about drugs and substances of abuse or misuse. Emphasis will be given to societal issues and the role a pharmacist can play as a provider of drug facts and information.

**710. Medical Terminology (1)**

This course provides an introduction to the origin and definition of medical terms used in various healthcare settings. In addition, it provides an introduction into body structures, diseases, and treatments arranged in an organ system manner.

**711. Health Care and Missions (2)**

This elective course provides students an opportunity learn about another culture and participate in a short-term health care mission trip. Students will learn to coordinate drug distribution, make pharmacotherapy recommendations within a limited formulary, and provide patient education in a setting with many communication barriers. Students, guided by faculty, will learn to provide patient care in this unique environment.

**712. Oncology (2)**

Elective course to provide students advanced exposure to oncology building on topics in PHRM 761. Students are introduced to different malignant disease states and their common chemotherapeutics regimens, the principles of concern prevent and screening, pharmaceutical care to manage short and long-term side effects from cancer and treatments, and appropriate management and handling of cytotoxic medications.

**713. Critical Care (2)**

Elective course designed to strengthen student's knowledge of common critical care topics with emphasis on applications of primary research in various disease states. The course will utilize group discussion of literature including reviews, guidelines, and primary research articles on selected topics in the area of critical care therapeutics. Students will give presentations to extend their knowledge beyond that provided in previous coursework.

**714. Neuroscience (2)**

An elective pharmacotherapy subspecialty course covering the drug therapy management of neurologic and psychiatric diseases and conditions. The primary purpose is to enable students to apply knowledge of pathology, pathophysiology, diagnosis, clinical presentation, classification, goals of therapy, non-pharmacotherapy, pharmacotherapy, considerations for special populations, and patient counseling to optimize patient outcomes. This course is designed to develop the student's ability to apply principles of clinical therapeutics in pharmacy practice, with particular focus given to those disorders which affect the central nervous system and the mind.

**716. Principles of Pharmaceutical Sciences (2)**

An introduction to the chemical and physical properties of medicinal agents. It will provide a foundational understanding of key concepts in the pharmaceutical sciences in preparation for coursework in medicinal chemistry, pharmacology and pharmaceuticals.

**717. Advanced Pain Management (2)**

Elective course building on PHRM 707, an in-depth overview of pain management, including pain classifications, assessment, pharmacological and non-pharmacological treatment options of a variety of nociceptive and neuropathic pain syndromes.

**718. Non-Prescription Drugs/Counseling (4)**

Designed to acquaint students with indications, actions, possible adverse events and contraindications of non-prescription drugs with an emphasis on communication with patients and providers. Students will be evaluated on their ability to obtain medical histories and counseling skills.

**719. Pharmacology Research (2)**

An elective course designed to help students develop an understanding of the principles of toxicology through lectures, class discussion, and developing and giving oral presentations about current toxicological issues within the field of pharmacy.

**721. Advanced Pharmacokinetics (2)**

Building on foundational principles, students will use analysis software to perform nonlinear regression of pharmacokinetic data. They will evaluate literature and become familiar with FDA guidance documents for clinical pharmacology and biopharmaceutics topics. Discussion will include advanced topics as optimal sampling design, pharmacokinetic clinical trial design, enterohepatic recirculation models and chronopharmacokinetics.

**722. Concepts in Toxicology (2)**

Principles of toxicology through lectures, discussion, and developing and giving oral presentations about current toxicological issues within the field of pharmacy.

**723. Drug Information and Informatics (3)**

PHRM 723 covers the fundamental concepts of drug information practice, clinical trial design and analysis, and pharmacy informatics. It is designed to introduce key concepts and establish a basic knowledge and skillset. Future courses (e.g., PHRM 704, PHRM 772) will develop mastery of the interpretation of clinical data and application of the evidence in the delivery of individualized pharmaceutical care. This course also introduces a variety of topics related to the medication use system.

**724. Diabetes Management (2)**

An elective course designed to provide students further exposure to diabetes topics including but not limited to: guidelines, drug selection algorithms, nutrition and insulin dosing, adjustment, and titration. Topics presented by lecture, discussion, and simulation.

**726. Pharmacological Basis of Drug Action I (3)**

Introduction course for first year students discussing drugs for cholinergic, adrenergic, cardiovascular, pulmonary and endocrine system. Drug class, mechanism of action, drug interaction and toxicities, pharmacodynamics and pharmacokinetics are discussed.

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**739. Clinical Laboratory Medicine (1)**

Basic laboratory tests used to diagnose disease and monitor disease progression and drug therapy. Students will learn to screen and evaluate patients using relevant clinical data.

**740. Pharmacotherapy I (3)**

This course focuses on drug therapy management of diseases and conditions associated with specific organ systems and will enable students to apply knowledge of pathology, pathophysiology, diagnosis, clinical presentation, classification, goals of therapy, non-pharmacotherapy, pharmacotherapy, considerations for special populations, and patient counseling to optimize patient outcomes. This course addresses medical conditions related to respiratory, gastrointestinal, and endocrinology disorders.

**741. Pharmacotherapy II (3)**

This course focuses on drug therapy management of diseases and conditions associated with specific organ systems and will enable students to apply knowledge of pathology, pathophysiology, diagnosis, clinical presentation, classification, goals of therapy, non-pharmacotherapy, pharmacotherapy, considerations for special populations, and patient counseling to optimize patient outcomes. This course addresses medical conditions related to cardiology,

**742. Student Leadership Development (2)**

This elective course provides an intentional focus on fostering the development of leadership (both positional and non-positional) in students and individual commitment to excellence through a series of active learning exercises.

**743. Moral Reasoning in Healthcare (2)**

PHRM 743 will serve as an introduction to moral reasoning regarding key issues in pharmacy practice and emphasize attentiveness to differing moral perspectives and thoughtful reflection and conversation about them. Special consideration will be given to Christian perspectives on moral issues in pharmacy practice.

**744. Pharmacy Jurisprudence (2)**

An overview of state and federal pharmacy practice laws that govern technician, pharmacy intern, and pharmacist practice and control the manufacturing, distribution, prescribing, and dispensing of drug products.

**746. Introduction to Community Pharmacy Practice II (2)**

A P-2 IPEE course designed to focus on the development of professional skills required for contemporary pharmacy practice. Two weeks/80 contact hours in a community practice setting exposing the student to the role and responsibilities of the community pharmacist and the importance of the pharmacist in patient care.

**748. Introduction to Institutional Pharmacy Practice II (2)**

The 4th of 4 courses designed to focus on the development of professional skills required for contemporary pharmacy practice requiring 2 weeks/80 contact hours in an institutional or specialty practice setting exposing the student to the role and responsibilities of the community pharmacist and the importance of the pharmacist in patient care.

**750. Pharmacotherapy III (3)**

This course focuses on drug therapy management of diseases and conditions associated with specific organ systems and will enable students to apply knowledge of pathology, pathophysiology, diagnosis, clinical presentation, classification, goals of therapy, non-pharmacotherapy, pharmacotherapy, considerations for special populations, and patient counseling to optimize patient outcomes.

This course addresses medical conditions related to infectious diseases. pathology, pathophysiology, diagnosis, clinical presentation, classification, goals of therapy, non-pharmacotherapy, pharmacotherapy, considerations for special populations, and patient counseling to optimize patient outcomes.

**751. Pharmacotherapy IV (3)**

This course focuses on drug therapy management of diseases and conditions associated with specific organ systems and will enable students to apply knowledge of pathology, pathophysiology, diagnosis, clinical presentation, classification, goals of therapy, non-pharmacotherapy, pharmacotherapy, considerations for special populations, and patient counseling to optimize patient outcomes. This course addresses medical conditions related to neurology, psychiatry and pain management.

**752. Christian Faith and Pharmacy (2) F**

This course will give students a basic understanding of the Christian Faith as seen through the Old and New Testaments and its impact on the field of pharmacy.

**753. Social and Behavioral Research Design I (2)****754. Social and Behavioral Research Design II (2)**

A two-course elective sequence designed to provide students an opportunity to develop, conduct, analyze and defend a research project to students & faculty with basic concepts and techniques in social science research methodology, design and analysis and critical evaluation of quantitative and qualitative studies.

**756. Pharmacy Management (2) F**

This elective course covers a broad range of community pharmacy management topics, including scheduling, inventory, employment law, claims adjudication, and personnel issues. Special attention is also given to effective communication and conflict negotiation skills. In-class

**758. The Christ-centered Pharmacist (2) S**

The Christ-Centered Pharmacist focuses on examining the practice of pharmacy from a Biblical worldview. Students will have weekly lectures and discussions with Dr. Greene and classmates. Students will be assigned to a Christian pharmacist mentor. Students will examine how a Christian pharmacist looks at the profession of pharmacy through the eyes of Christ and how being a pharmacist is more than a job, it is a calling. Students will focus on how Christ-centered pharmacists practice pharmacy. Students will examine Christian virtues and how these virtues affect daily practice. Students will study and discuss scripture and will be introduced to literature such as "Medicine and Ministry", "God at Work" and "The Christian Virtues in Clinical Practice". Students will have an opportunity for experiential learning with visits to of campus practice sites including St. Jude Children's Research Hospital.

**759. Population Health (2) S**

This elective course is designed to introduce pharmacy students to the concepts and issues of population health as they relate to the practice of pharmacy. Students learn how population health concepts and issues are important in daily pharmacy practice, with an emphasis on applying the fundamental issues of population health, health promotion, disease prevention, and epidemiology within pharmacy practice through a case study approach. Population health topics as they relate to the pharmacy discipline are emphasized and include but are not limited to: providing population-based care, providing patient-centered care, promoting the availability of effective health and disease prevention services and health policy, research design, biostatistics, economics/pharmacoeconomics, epidemiology, pharmacoepidemiology, and professional communication.

**760. Pharmacotherapy V (3)**

This course focuses on drug therapy management of diseases and conditions associated with specific organ systems and will enable students to apply knowledge of pathology, pathophysiology, diagnosis, clinical presentation, classification, goals of therapy, non-pharmacotherapy, pharmacotherapy, considerations for special populations, and patient counseling to optimize patient outcomes. This course covers critical care/nutrition topics.

**761. Pharmacotherapy VI (3)**

This course focuses on drug therapy management of diseases and conditions associated with specific organ systems and will enable students to apply knowledge of pathology, pathophysiology, diagnosis, clinical presentation, classification, goals of therapy, non-pharmacotherapy, pharmacotherapy, considerations for special populations, and patient counseling to optimize patient outcomes. This course addresses medical conditions related to oncology, men's and women's health, toxicology, and rheumatic diseases.

**762. Infectious Disease (2) F, S**

This elective course is designed to strengthen the student's knowledge of infectious disease topics with emphasis on application of primary research 0.0p7current guidelines in various disease states. The course will utilize group discussion of primary literature including reviews, guidelines 0.0pprimary research 0rticles on selected topics in the area of infectious disease therapeutics. Students will also give presentations on other related topics that will extend their knowledge beyond that provided in previous coursework.

**765. Pharmacoeconomics 0.0pHealth Systems Management (2)**

Concepts 0.0ptheories of pharmacoeconomics 0.0phuman resource management in all pharmacyppractice settings: planning, implementation, 0.0panalysis processes as related to personnel along with scal management at the systems, pharmacy0.0ppatient level.

**766. Patient Assessment a.0pInterviewing (2)**

Ha.0s-on opportunity for students to apply concepts of physical assessment a.0pinterviewing in a clinical laboratory environment. Students will be able to assess response to drug therapy by combining physical assessment with patient interviewing a.0pwill also develop their skills in communicating with patients.

**767. Applied Therapeutics with Simulation I (1)****768. Applied Therapeutics with Simulation II (1)**

This course introduces the concepts of pharmaceutical carepprior to advanced pharmacyppractice experiences by 101 placing students in the clinical environment. Students will have the opportunity to have direct patient contact, 0.0p



### 771. Critical Review of Drugs (2)

This inter-disciplinary science-based 2-credit hour elective will involve a critical analysis of drugs of interest. This active learning exercise will provide the PharmD candidate with an opportunity to review, integrate and apply basic concepts, principles and their knowledge of Medicinal Chemistry, Pharmacology and Pharmacotherapeutics to perform a thorough analysis of drug related scientific literature and experimental data. Key areas of review will include Brand and Generic drug names, Chemistry (Pharmacophores, SAR and Physicochemical properties), Pathophysiology, Mechanism(s) of action, FDA approved indications, Metabolic Outcomes, Drug Interactions, Adverse effects and Boxed warnings. The course is primarily discussion based with student led presentations on drugs assigned to them.

### 772. Literature Evaluation / Landmark Trials (2)

PHRM 772 builds on the principles introduced in PHRM 723. During the Course, faculty and students will discuss selected clinical trials, relevant principles of study design, and primary medical literature evaluation. The emphasis will be on training students in the interpretation and critical analysis of biomedical literature for the purpose of developing evidence-based care recommendations for a given patient or patient population.

### 779. External Domestic Study Programs (1-4)

All courses and application to the program must be de ned prior to travel.

### 780. Study Abroad Programs (1-4)

All courses and application to the program must be de ned prior to travel.

### 785. Special Studies in Pharmacy (1-6)

Group studies which do not appear in the School course offerings. Content will be determined by need.

### 795. Independent Study in Pharmacy (1-3)

Individual research and study under the guidance of a pharmacy faculty member.

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## Advanced Pharmacy Practice Experience (APPE)

### 700. Advanced Institutional Practice (4)

A required course designed to offer the student advanced experience in an institutional pharmacy practice setting. Students will be expected to apply knowledge and skills learned during the experience and previously in the curriculum in order to accurately and ef ciently ll prescription orders; comply with state and federal laws as well as regulations from accrediting agencies; collect patient speci c information for the development of an evidence-based treatment plan; respond to drug information questions; communicate effectively, orally and in writing, with patients, caregivers, and other health professionals; and conduct themselves in a professional manner.

### 710. Advanced Community Practice (4 each)

Two APPEs in this section are required courses, 710A and 710B. One additional course can be taken as an elective course. Each course is designed to offer the student advanced experience in various community pharmacy practice settings. Students are expected to apply knowledge and skills learned during the experience and previously in the curriculum in order to accurately and ef ciently ll prescription orders; collect patient speci c information for medication therapy management (MTM); appropriately document MTM and related activities; respond to drug information questions; communicate effectively, orally and in writing, with patients, caregivers, and other health professionals; manage a pharmacy practice; and conduct themselves in a professional manner. Course are repeatable for credit.

#### 710A. Advanced Chain Community Practice

#### 710B. Advanced Independent Community Practice

#### 710C. Advanced Compounding Practice

#### 710D. Community Practice for Medically Underserved

#### 710E. Community Institutional Outpatient Pharmacy

