

DOCTOR OF PHARMACY: REQUIRED COURSES IN P1-P4

BIOLOGICAL SCIENCES: 17 REQUIRED CREDITS

PSC 311 Biochemistry (3)
PSC 312 Molecular Biology (3)
PSC 315 Immunology (3)
PSC 321; PSC 322 Physiology/Pathophysiology I and II (4,4)

PHARMACEUTICAL SCIENCES: 14 REQUIRED CREDITS

PSC 341; PSC 342 Pharmaceutics I and II (3,3)
PSC 369 Molecular Foundations of Drug Action (3)
PSC 370 Pharmacogenomics (2) PSC 441 Pharmacokinetics (3)

CLINICAL SCIENCES AND PHARMACY PRACTICE: 52 REQUIRED CREDITS

PHM 318 Foundations of Pharmacy (1)
IPS 301, 302, 401, 402, 501, 502 Integrated Problem-Solving Workshops I-VI (7 credits total)
PHM 329 Self-care & Over-the-Counter Medicines (3)
PTP 410, 425, 431, 440, 446, 515, 525, 528, 549 Pathophysiology, Therapeutics, Pharmacology, and Medicinal Chemistry modules (24 credits total)
PSL 331, 332, 431, 432, 531, 532 Pharmacy Skills I-VI (11 credits total)
PHD 410 Drug Information and Biostatistics (2)
PSC 451 Scientific Literature Evaluation (1)
PAD 510 or PAD 511 Jurisprudence (3)
PHM 911 Orientation to Advanced Pharmacy Practice Experiences (0)

ADMINISTRATIVE AND SOCIAL SCIENCES: 9 REQUIRED CREDITS

PAD 451 US and Global Healthcare Systems (3)
PAD 515 Pharmacoeconomics and Health Policy (3)
PAD 521 Pharmacy Administration (3)

HUMANITIES, CULTURE HEALTH, AND ETHICS: 3 REQUIRED CREDITS

ETH 510 Healthcare and Human Values (3)

EXPERIENTIAL EDUCATION: 50 CREDITS

CLK 798 Community Pharmacy Introductory Pharmacy Practice Experience (4)
CLK 803 Team Based Care Introductory Pharmacy Practice Experience (1)
CLK 807 Institutional Pharmacy Introductory Pharmacy Practice Experience (3)
CLK 811+ Advanced Pharmacy Practice Experiences (42 credits total)

ELECTIVE CREDIT GRADUATION REQUIREMENTS:

Total of 18 elective credits required to graduate

- Minimum of 6 credits must be designated as Professional Elective Credit and taken during the PharmD program years (P1-P3)
 - Minimum of 9 credits must be designated as Liberal Arts Elective Credit*
- *Some professional electives may also satisfy the Liberal Arts Elective Credit designation.

TOTAL CREDITS: 167 CREDITS 145 required + 6 professional elective

DOCTOR OF PHARMACY PROGRAM OUTCOMES

DOMAIN 1 – FOUNDATIONAL KNOWLEDGE

1.1. Learner (LEARNER) - Develop, integrate, and apply knowledge from the foundational sciences (i.e., *pharmaceutical, social/behavioral/administrative, and clinical sciences*) to evaluate the scientific literature, explain drug action, solve therapeutic problems, and advance population health and *patient centered care*.

DOMAIN 2 – ESSENTIALS FOR PRACTICE AND CARE

2.1. Patient-centered care (CAREGIVER) - Provide *patient-centered care* as the medication expert (collect and interpret evidence, prioritize, formulate assessments and recommendations, implement, monitor and adjust plans, and document activities).

2.2. Medication use systems management (MANAGER) - Manage patient healthcare needs using human, financial, technological, and physical resources to optimize the safety and efficacy of medication use systems.

2.3. Health and wellness (PROMOTER) - Design prevention, intervention, and educational strategies for individuals and communities to manage chronic disease and improve health and wellness.

2.4. Population-based care (PROVIDER) - Describe how *population-based care* influences *patient centered care* and influences the development of practice guidelines and evidence-based best practices.

DOMAIN 3 - APPROACH TO PRACTICE AND CARE

3.1. Problem Solving (PROBLEM SOLVER) – Identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution.

3.2. Educator (EDUCATOR) – Educate all audiences by determining the most effective and enduring ways to impart information and assess understanding.

3.3. Patient Advocacy (ADVOCATE) - Assure that patients' best interests are represented.

3.4. Interprofessional collaboration (COLLABORATOR) – Actively participate and engage as a healthcare team member by demonstrating mutual respect, understanding, and values to meet patient care needs.

3.5. Cultural sensitivity (INCLUDER) - Recognize *social determinants of health* to diminish disparities and inequities in access to quality care.

3.6. Communication (COMMUNICATOR) – Effectively communicate verbally and nonverbally when interacting with an individual, group, or organization.

DOMAIN 4 – PERSONAL AND PROFESSIONAL DEVELOPMENT

4.1. Self-awareness (SELF-AWARE) – Examine and reflect on personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth.

4.2. Leadership (LEADER) - Demonstrate responsibility for creating and achieving shared goals, regardless of position.

4.3. Innovation and Entrepreneurship (INNOVATOR) - Engage in innovative activities by using creative thinking to envision better ways of accomplishing professional goals.

4.4. Professionalism (PROFESSIONAL) - Exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers, and society.

INTERPROFESSIONAL EDUCATION

Pharmacists are integral members of the healthcare team. As such, an important aspect of student pharmacists' education includes Interprofessional education, which has been defined as occurring when students of two or more health professions learn from, with and about each other. The School of Pharmacy and Pharmaceutical Sciences of ACPHS has adopted the following Vision and Mission statements for Interprofessional Education.

Vision: ACPHS will graduate pharmacists who actively collaborate with other health professionals to provide and promote patient-centered care.

Mission: The mission of IPE at ACPHS is to provide every student multiple opportunities to learn about, from and with other health professions. Through these experiences, students will develop competencies approved by the PCC, in each of the four recognized IPE domains. Through local and regional affiliations, our students and faculty will provide leadership to build stronger healthcare teams and thus improve the care of their patients.

DOCTOR OF PHARMACY PROFESSIONAL CURRICULAR GRID

Professional Year 1 (P1)					
Fall Semester		Credits	Spring Semester		Credits
PSC 341	Pharmaceutics I	3	PSC 342	Pharmaceutics II	3
PSC 321	Physiology/Pathophysiology I	4	PSC 322	Physiology/Pathophysiology II	4
CHE 311 or PSC 311	Biochemistry	3	PSC 312	Molecular Biology	3
PSC 315	Immunology	3	PHM 329	Self Care/OTC	3
PHM 318	Foundations of Pharmacy	1	PSL 332	Pharmacy Skills II	2
PSL 331	Pharmacy Skills I	2	IPS 302	Integrated Problem Solving Workshop II	1
IPS 301	Integrated Problem Solving Workshop I	1	PSC 369	Molecular Foundations of Drug Action I	3
	Total	17		Total	19

Introductory Pharmacy Practice Experience - Summer after P1 year
CLK 798 Community (4 credits)

Professional Year 2 (P2)					
Fall Semester		Credits	Spring Semester		Credits
PSC 370	Pharmacogenomics	2	PTP 425	PTP&M – Endocrine	2
PSC 441	Pharmacokinetics	3	PTP 431	PTP&M – GI/Nutrition	2
PTP 440	PTP&M – Cardiovascular	4	PTP 446	PTP&M – Infectious Disease	4
PTP 410	PTP&M – Respiratory Disease	1	PAD 451	US and Global Health Care Systems	3
PHD 410	Drug Information/Biostatistics	2	IPS 402	Integrated Problem Solving Workshop IV	1
IPS 401	Integrated Problem Solving Workshop III	1	PSL 432	Pharmacy Skills IV	2
PSL 431	Pharmacy Skills III	2	PSC 451	Scientific Literature Evaluation ^b	1
PSC 451	Scientific Literature Evaluation ^b	1		Professional Elective ^a	3
	Professional Elective ^a	3			
	Total	15-19		Total	14-18

Introductory Pharmacy Practice Experience - Summer after P2 year
CLK 807 Institutional (3 credits)
CLK 803 Team Based Care (1 credit)

DOCTOR OF PHARMACY PROFESSIONAL CURRICULAR GRID (Continued)

Professional Year 3 (P3)					
Fall Semester		Credits	Spring Semester		Credits
PTP 525	PTP&M – Nephrology/Toxicology	2	PTP 515	PTP&M Rheumatology/Oncology	3
PTP 528	PTP&M – Genitourinary	2	PAD 510 or PAD 511	Jurisprudence	3
PTP 549	PTP&M – Neurology/Psychology	4	ETH 510	Health Care and Human Values	3
IPS 501	Integrated Problem Solving Workshop V	1	PAD 521	Pharmacy Administration	3
PAD 515	Pharmacoeconomics and Health Policy	3	IPS 502	Integrated Problem Solving Workshop VI	2
PSL 531	Pharmacy Skills V	2	PSL 532	Pharmacy Skills VI	1
PHM 911	Orientation to APPE	No credit		Professional Elective ^a	3
	Professional Elective ^a	3			
	Total	14-17		Total	15-18

Professional Year 4 (P4)		
Advanced Pharmacy Practice Experiences (42 credits) - Summer, Fall and Spring Semesters		
CLK 929	Community Core Rotation	6
CLK 843 or CLK 930	Institutional Core Rotation	6
CLK 812 – CLK 999	Inpatient Core Rotation	6
CLK 812 – CLK 999	Ambulatory Care Core Rotation	6
	Flexible Core Rotation	6
	Elective	6
	Elective	6
	Total	42

PTPM – Pathophysiology, Therapeutics, Pharmacology, and Medicinal Chemistry

^a Professional electives can be taken any semester

^b Students take once in the fall or spring

Updated Spring 2019

INTRODUCTORY PHARMACY PRACTICE EXPERIENCES (IPPEs)

IPPEs are designed for pharmacy students in their first three professional years of the Pharm.D. program. By the time they enter their final professional year, students will have gained 320 hours of “hands-on” practice experiences by meeting the IPPE requirements detailed below.

Each pharmacy student is required to complete three (3) rotations which total eight (8) credits and 320 hours. All IPPE requirements must be met prior to beginning APPEs.

Community Pharmacy IPPE (four weeks)

Under the direct supervision of a registered pharmacist, students will demonstrate proficiencies in a skill set that includes: dispensing prescriptions, utilizing patient profiles, monitoring drug interactions, pharmacy operations, and basic communication with patients and physicians. This IPPE is scheduled following the first professional year (P1).

Institutional IPPE (three weeks)

This course is designed to introduce students to hospital pharmacy practice. Students will be introduced to distributive and clinical functions including review and evaluation of medication orders, identification and resolution of medication related problems, interactions with non-pharmacy departments, observation of the order entry process and preparation of sterile products, performing patient-specific calculations necessary for dosing medications, and presenting a patient case or disease topic. This IPPE is scheduled in the summer following the second professional year (P2).

Team-Based Care IPPE (one week)

Formerly titled the Patient Assessment IPPE, this course will expose students to the basic day-to-day operations of an outpatient care setting. Students will gather and organize information from patient medical charts, conduct patient interviews to obtain an accurate medication history, present a patient case in a structured format (e.g., SOAP note), and prepare responses to drug information inquiries. This IPPE is scheduled in the summer following the second professional year (P2).

ADVANCED PHARMACY PRACTICE EXPERIENCES (APPEs)

APPEs are "hands-on" experiences (called rotations) designed to build upon the academic base obtained in the classrooms, laboratories, and IPPE portions of the Pharm.D. program.

APPEs are subdivided into modules. They begin each May and continue through May of the following year. One week of an APPE is equal to one semester hour of academic credit.

Each student is required to complete 42 weeks (42 credits). APPEs are scheduled by the College and typically require the student to be at the practice site at least eight hours daily.

Each student must successfully complete five (5) core rotations and two (2) elective rotations.

Required Core APPEs

Students must complete each of these rotations for a total of 30 credits. All required core rotations must be completed in the United States (in accordance with [ACPE Standard 14.5](#)).

1. Community Pharmacy (six weeks)
2. Ambulatory Care (six weeks) *
3. Institutional Pharmacy Operations (six weeks)
4. Inpatient Care (six weeks) *
5. Flexible Core (six weeks) - Students select a second rotation from core categories 1-4 as listed above.

* Inpatient Care and Ambulatory Care rotations are direct patient care rotations in settings including but not limited to: anticoagulation; critical care; diabetes/endocrinology; emergency medicine/toxicology; family practice; gastroenterology; geriatrics; hematology/oncology; HIV pharmacotherapy; homecare; infectious diseases; internal medicine; nephrology; neurology; nutrition; pain management; pediatrics; primary care; and psychiatry.

Elective APPEs

Students must choose two elective rotations from the below categories to complete their APPE requirements. Each rotation is six weeks in length and six (6) academic credits. Elective APPEs may be completed outside of the U.S.

Elective options include: Compounding; Drug Programs Management; Governmental Affairs/Regulatory; Health Information Management; Home Infusion Pharmacotherapy; [International Pharmacy](#); Long-term Care; Medication Safety; Military Pharmacy; Nuclear Pharmacy; Pharmaceutical Industry; Pharmacogenomics; Pharmacy Administration; Pharmacy Association Management; Pharmacy Education and Research, and many others.

Non-Academic Requirements for IPPEs and APPEs

Prior to IPPEs, students must register as a pharmacy intern in the state that the rotation will be performed.

Prior to APPEs, students must have successfully completed their IPPE requirements.

Prior to IPPEs and APPEs, students must have the following:

- A copy of personal immunization records, which will be on file at the College (in the event a site requests to see them).
- Proof of a recent physical exam (recommended to be performed approximately two weeks prior to the start of rotations, so that it remains valid through the duration of APPEs) - Students will be provided with appropriate forms to complete.
- Tuberculosis Screening test (PPD skin test or IGRA blood test) - Students must provide medical documentation showing results of a negative TB skin or blood test, or chest x-ray report following a positive test result. The Division of Experiential Education will provide further details closer to APPEs.
- CPR or Basic Life Support Certification, valid for the duration of APPE rotations
- Seasonal influenza (flu) vaccination

Some clinical sites may have their own requirements as well, including a criminal background check, an antibody titer (laboratory blood test, which indicates proof of immunity, as opposed to providing proof of having received the vaccine), etc.

Specific requirements, if any, would be noted in the rotation site's record within the CoreELMS database, and would be communicated to the appropriate students via email in advance of the rotation by Experiential Education staff.

Institutions hosting experiential education rotations may deny a student's participation in the experiential program because of the inability to produce an appropriate health clearance, which could result in delayed graduation or in the inability to graduate from the program.

NOTICE OF BACKGROUND CHECK

Individuals who have been convicted of a felony or misdemeanor may be denied certification or licensure as a health professional. Information regarding eligibility for licensing in a particular jurisdiction may be obtained from the appropriate credentialing body of that jurisdiction.

Rotation sites may deny a student's participation in the experiential program because of a felony or misdemeanor conviction, failure of a required drug test, or inability to produce an appropriate health clearance, which would result in delayed graduation or in the inability to graduate from the program.

Because institutions hosting experiential education may require a criminal background check in order to permit students in their facility, the College will conduct background checks on all students entering clerkship, using the Health and Human Services/Office of Inspector General (HHS OIG) database.

The goal of the HHS OIG background check web site is to identify individuals and businesses excluded from Federally funded health care programs. This includes individuals convicted of fraud related to the federal programs, patient abuse, licensing board actions and default on health education assistance loans.

If a student is identified via use of this database, the matter is referred to a Committee appointed by the School of Pharmacy and Pharmaceutical Sciences of ACPHS for action.