

PROFESSIONAL CURRICULUM

Requirements for Class of 2025*

Curriculum subject to revision

*Students must complete the curriculum that is current for their class.

FIRST PROFESSIONAL YEAR (2021 – 2022)

Fall Semester 2021

PHARM 5110: Foundations of Biochemistry (4)
PHARM 5120: Foundation of Pharmaceutics (4)
PHARM 5130: Foundations of Immunology/Pathology (1.5)
PHARM 5140: Foundations of Patient Centered Care (4)
PHARM 5144: Foundations of Drug Information (1)
PHARM 5145: Pharmacy Practice Skills Lab I (0.5)
PHARM 5150: Recitation (1.5)

Semester Credit Hours: 16.5

Spring Semester 2022

PHARM 5111: Foundations of Biotechnology & Molecular Biology (3)
PHARM 5141: Community Practice (3)
PHARM 5142: Foundations of Pharmacy: Law/Ethics/Risk Mitigation (4)
PHARM 5143: Foundations of Professional Practice: Community Agency Practicum (3)
PHARM 5146: Pharmacy Practice Skills Lab II (0.5)
PHARM 5151: Recitation (2)
PHARM 6611: Foundations of Interprofessional Education (0.5)

Semester Credit Hours: 16

SECOND PROFESSIONAL YEAR (2022 – 2023)

Fall Semester 2022

PHARM 6252: Integrated Pharmacotherapeutics I (8)
PHARM 6240: Drug Information & Literature Evaluation I (3)
PHARM 6242: Pharmaceutical Compounding & Drug Delivery Systems/Laboratory (3)
PHARM 6247: Pharmacy Practice Skills Lab III (0.5)
PHARM 6250: Recitation (2)

Semester Credit Hours: 16.5

Spring Semester 2023

PHARM 6253: Integrated Pharmacotherapeutics II (8)
PHARM 6220: Pharmacokinetics & Pharmacodynamics (3)
PHARM 6241: Drug Information & Literature Evaluation II (3)
PHARM 6248: Pharmacy Practice Skills Lab IV (0.5)
PHARM 6251: Recitation (2)

Semester Credit Hours: 16.5

THIRD PROFESSIONAL YEAR (2023 – 2024)

Summer Semester 2023

PHARM 7640: Core Community Rotation (4)
PHARM 7641: Core Institutional Rotation (4)

Elective(s) (0-4)

Semester Credit Hours: 8-12

Fall Semester 2023

PHARM 7355: Integrated Pharmacotherapeutics III (4)
PHARM 6713: Interprofessional Experience: Chronic Disease Management (0.5)
PHARM 7340: Leadership and Management for Pharmacists (2)
PHARM 7349: Pharmacy Practice Skills Lab V (0.5)
PHARM 7350: Recitation (2)
PHARM 7352: Principles of Project Development (3)
PHARM 7841: Professional Development Seminar I (0.5)
Elective(s) (3-5)

Semester Credit Hours: 15.5-17.5

Spring Semester 2024

PHARM 7341: Advanced Therapeutics (6)
PHARM 6623: Interprofessional Experience: Medical Error Disclosure (0.5)
PHARM 7342: US Health Care Policy (2)
PHARM 7842: Professional Development Seminar II (0.5)
PHARM 7851: Project Development Practicum I (2)
Elective(s) (4-6)

Semester Credit Hours: 15-17

FOURTH PROFESSIONAL YEAR (2024 – 2025) *

Summer Semester 2024

APPE Block 1

APPE Block 2

Semester Credit Hours: 6-12

Fall Semester 2024

APPE Block 3

APPE Block 4

APPE Block 5

PHARM 7843: Professional Development Seminar III (0.5)

PHARM 7852: Project Development Practicum II (2)

Semester Credit Hours: 14.5-20.5

Spring Semester 2025

APPE Block 6

APPE Block 7

APPE Block 8

PHARM 6614: Interprofessional Experience: Transition of Care (0.5)

PHARM 7844: Professional Development Seminar IV (0.5)

PHARM 7853: Project Development Practicum III (2)

Semester Credit Hours: 15-21

* Students participate in seven, 6-week rotations. One (1) APPE Block will be a scheduled "Off" block. Rotations may be taken in any order subject to CORE ELMS Rotation scheduling lottery *

Curriculum subject to revision. Students must complete the curriculum that is current for their class.

PROFESSIONAL CURRICULUM COURSE DESCRIPTIONS

First Professional Year

FALL SEMESTER – P1: 16.5 semester credit hours

Foundations in Biochemistry PHARM 5110 4 credits

An introduction to acid-base theory; amino acid structure and metabolism; enzymes and co-enzymes; carbohydrate and lipid structure and metabolism; nutrition.

Foundations in Pharmaceutics PHARM 5120 4 credits

This course covers the physical-chemical principles of dosage forms, biological principles of dosage forms, principles of drug delivery via dosage forms (e.g., liquid, solid, semi-solid, controlled release, patches, and implants), principles of dosage form stability and drug degradation in dosage forms, and materials and methods used in preparation and use of dosage forms.

Foundations in Immunology/Pathology PHARM 5130 1.5 credits

This course covers basic principles and mechanisms of disease including: principles of infectious disease; inflammation and repair; degeneration; hemodynamic disturbances; developmental disturbances; neoplasia. human immunity and the immune response; principles of antigen-antibody relationships; molecular biology of the immune response; genetic basis of antibody synthesis, development, function, and immunopathology.

Foundations in Patient-Centered Care PHARM 5140 4 credits

This course will introduce pharmacy students to fundamental patient care provided by pharmacist, providing the foundation for a career in patient-centered care. Students will learn skills that are uniquely suited to optimizing the use of medications and patient behaviors that promote health, wellness and disease prevention. This course will discuss pharmacy from a product-oriented profession, as well as a profession that harnesses knowledge and cognitive skills to provide patient care, advocacy and safety. Pharmacy students will gain understanding and experience with a patient-centered approach to clinical care. This course will introduce three major categories of clinical pharmacy care: holistic care, pharmacy care skills, and health and wellness advising.

Foundations of Drug Information PHARM 5144 1 credit

Provides the foundations of drug information practice, including primary, secondary, and tertiary drug information resources; the systematic approach to inquiry; and introductory concepts in study design and biostatistics. Provides the foundation for the Drug Literature Evaluation series.

Pharmacy Practice Skills Lab I PHARM 5145 0.5 credit

The Pharmacy Practice Skills Lab series will emphasize the practice of foundational patient care skills while integrating knowledge learned in other courses with their practical applications in pharmacy practice. The primary skills emphasized during this longitudinal course include patient physical assessment, medication history, patient interviews, medication counseling, SBARQ, and SOAP note writing. In PPSLI, the focused skills will include medication history, collecting subjective and objective information, and general physical assessment.

Recitation PHARM 5150 1.5 credits

This recitation course will provide active learning sessions in which students in the P1 Fall Semester improve their understanding of the foundational material being taught in the P1 curriculum and begin learning how to apply this foundational knowledge to the practice of pharmacy. Recitations will further facilitate the development of students' professionalism, including professional communication skills, and evidence-based approaches to pharmaceutical care.

SPRING SEMESTER – P1: 16 semester credit hours

Foundations in Biotechnology & Molecular Biology PHARM 5111 3 credits

This course covers nucleic acid metabolism, including purines and pyrimidines, DNA replication and repair, RNA and protein synthesis, regulation of gene transcription and translation. Topics also include cell structure components, ion channels and receptors, mitosis and meiosis, cell cycle, genetics, pharmacogenomics, recombinant DNA methods, biologics, molecular diagnostic methods, gene editing and gene therapy.

Community Practice PHARM 5141 3 credits

Delivery of pharmaceutical services to community; didactic material and in-depth case studies involving patient profiles, compliance, over-the-counter medications, prescription accessories, and patient counseling.

Foundations of Pharmacy: Law/Ethics/Risk Mitigation PHARM 5142 4 credits

This course will introduce pharmacy students to the legal, ethical, and risk management issues that are foundational in the practice of pharmacy. Course content will focus on statutes, regulations, standards of practice, and case law. Students will also develop skills for ethical issue identification, critical reasoning, and analysis. These skills will enable students to better integrate core principles of basic and clinical sciences within a balance of legal requirements, ethical rules, public policy, and societal interests.

Foundations Professional Practice: Community Agency Practicum PHARM 5143 3 credits

This course is a direct patient contact IPPE for PharmD students. Students select one of 6-8 diverse community-based human services agencies (arranged by the instructor) and a student partner with whom to work for the 15 weeks of the semester. In-class discussions and speakers require students to combine an observational evaluation of their experiences with assigned readings on the many aspects of providing and receiving service and medical care. Interactions with both companions and agency partners serve to raise issues relative to diversity, social awareness and civic responsibility, anchored to material from other PharmD courses that discuss the safety, economic, social and political aspects of health care provision from patient-centered care perspective.

Pharmacy Practice Skills Lab II PHARM 5146 0.5 credit

The Pharmacy Practice Skills Lab series will emphasize the practice of foundational patient care skills while integrating knowledge learned in other courses with their practical applications in pharmacy practice. The primary skills emphasized during this longitudinal course include patient physical assessment, medication history, patient interviews, medication counseling, SBARQ, and SOAP note writing. In PPSLII, the focused skills will include general physical assessment and patient interviewing.

Recitation PHARM 5151 2 credits

This recitation course will provide active learning sessions in which students in the P1 Spring Semester improve their understanding of the foundational material being taught in the P1 curriculum and begin learning how to apply this foundational knowledge to the practice of pharmacy. Recitations will further facilitate the development of students' professionalism, including professional communication skills, and evidence-based approaches to pharmaceutical care.

Foundations of Interprofessional Education PHARM 6611 0.5 credits

The goal of interprofessional collaboration and education is to encourage increased knowledge of the roles and responsibilities of other disciplines, and to improve communication and collaboration among disciplines in future work settings (National Academy of Medicine, 2011). This interdisciplinary course is designed to prepare students for deliberately working together to improve the safety and quality of the health care being provided in the ambulatory care setting. Technology is a critical component of interprofessional communication and teamwork. Through simulation-based patient care management scenarios, health professions' students are provided the opportunity to engage in interactive learning with other disciplines. Complex patient care management simulations form the basis for these interprofessional education experiences designed to teach the principles of team-based care, communication, patient-centered care and improving patient outcomes. The use of information systems and debriefing methodologies are incorporated to facilitate discussions across disciplines and enhance teamwork. The purpose of this course is to better prepare the future workforce to practice in a team-based environment.

SECOND PROFESSIONAL YEAR

FALL SEMESTER – P2: 16.5 semester credit hours

Integrated Pharmacotherapeutics I PHARM 6252 8 credits

Integrated Pharmacotherapeutics I is divided into five modules: Introduction, Autonomics, Nephrology, Cardiovascular, and Endocrinology. The course first introduces concepts such as therapeutics, pharmacogenomics, clinical toxicology and examines special populations including pediatric and geriatric patients. It also introduces fundamental concepts in medicinal chemistry critical for understanding how drug structure affects drug action. The other four modules will be covered from physiological, medicinal chemistry, pharmacology, toxicology and therapeutics in an integrated way, having the overall objectives of understanding current pharmacotherapeutic approaches, and knowing the basic science underpinnings of those approaches, for management of disease conditions.

Drug Information & Literature Evaluation I PHARM 6240 3 credits

This course builds off of Foundations of Drug Information to introduce principles of biostatistics, epidemiology, and critical appraisal of the medical literature. These skills form a foundation for evidence-based practice. The first semester will emphasize clinical trials, cohort studies, and case-control studies.

Pharmaceutical Compounding & Drug Delivery Systems PHARM 6242 3 credits

(Lecture & Laboratory) Principles and techniques of prescription compounding, record keeping, and patient counseling. This course requires registration for a lab section.

Pharmacy Practice Skills Lab III PHARM 6247 0.5 credit

The Pharmacy Practice Skills Lab series will emphasize the practice of foundational patient care skills while integrating knowledge learned in other courses with their practical applications in pharmacy practice. The primary skills emphasized during this longitudinal course include patient physical assessment, medication history, patient interviews, medication counseling, SBARQ, and SOAP note writing. In PPSLIII, the focused skills will include medication counseling and physical assessment for cardiovascular and endocrine systems.

Recitation PHARM 6250 2 credits

This recitation course will provide active learning sessions designed so that students will integrate their understanding of the foundational basic science and clinical material being taught in the P2 curriculum and will begin to apply this foundational knowledge to the practice of pharmacy. Recitations will further facilitate the development of students' professionalism, including professional communication skills, and evidence-based approaches to pharmaceutical care. The learning exercises will be largely, but not exclusively, case-based, and will be developed by the course masters. The class will be divided into six groups.

SPRING SEMESTER – P2: 16.5 semester credit hours

Integrated Pharmacotherapeutics II PHARM 6253 8 credits

Integrated Pharmacotherapeutics II is divided into three modules: 1) Central Nervous System, 2) Pulmonary, and 3) Infectious Disease. In each of these modules, the relevant pathophysiology, medicinal chemistry, pharmacology, toxicology and therapeutics will be presented in an integrated way, having the overall objectives of understanding current pharmacotherapeutic approaches, and knowing the basic science underpinnings of those approaches, for management of important disease conditions.

Pharmacokinetics & Pharmacodynamics PHARM 6220 3 credits

Basic principles of in-vivo drug kinetics (linear and non-linear); principles of bioavailability/bioequivalence; physiologic determinates of drug onset and duration; concepts of absorption, distribution, metabolism, and excretion; the pharmacokinetic-pharmacodynamic interface; dosage regimen design; renal and hepatic clearance; using pharmacodynamics to estimate drug half-life and adjust dosages.

Drug Information & Literature Evaluation II PHARM 6241

3 credits

This course builds from Foundations of Drug Information and Drug Literature Evaluation I to introduce principles of biostatistics, pharmacoeconomic, and critical appraisal of the medical literature. These skills form a foundation for evidence-based practice. The second semester will emphasize noninferiority clinical trials, systematic reviews and meta-analysis, and pharmacoeconomic studies.

Pharmacy Practice Skills Lab IV PHARM 6248

0.5 credit

The Pharmacy Practice Skills Lab series will emphasize the practice of foundational patient care skills while integrating knowledge learned in other courses with their practical applications in pharmacy practice. The primary skills emphasized during this longitudinal course include patient physical assessment, medication history, patient interviews, medication counseling, SBARQ, and SOAP note writing. In PPSLIV, the focused skills will include complete medication review and musculoskeletal/neurological physical assessment.

Recitation PHARM 6251

2 credits

This recitation course will provide active learning sessions designed so that P2 students will integrate their understanding of the foundational basic science and clinical material being taught in the P2 curriculum and will begin to apply this foundational knowledge to the practice of pharmacy. Recitations will further facilitate the development of students' professionalism, including professional communication skills, and evidence-based approaches to pharmaceutical care. The learning exercises will be largely, but not exclusively, case-based, and will be developed by the course masters. The class will be divided into six groups.

THIRD PROFESSIONAL YEAR**SUMMER SEMESTER – P3: 8-12 semester credit hours****Core Community Clerkship PHARM 7640**

4 credits

The Core Community Clerkship is an introductory pharmacy practice experience (IPPE). It takes place in a community setting and includes interprofessional practice involving shared decision-making, professional ethics and expected behaviors, and direct patient care activities.

Core Institutional Clerkship PHARM 7641

4 credits

The Core Institutional Clerkship is an introductory pharmacy practice experience (IPPE). It takes place in a hospital setting and includes interprofessional practice involving shared decision-making, professional ethics and expected behaviors, and direct patient care activities.

Elective(s) (0-4)

0-4 credits

FALL SEMESTER – P3: 15-17 semester credit hours**Integrated Pharmacotherapeutics III PHARM 7355**

4 credits

Integrated Pharmacotherapeutics III is divided into four modules: 1) Reproduction, 2) Dermatology, 3) Gastrointestinal, and 4) Oncology. In each of these modules, the relevant pathophysiology, medicinal chemistry, pharmacology, toxicology and therapeutics will be presented in an integrated way, having the overall objectives of understanding current pharmacotherapeutic approaches, and knowing the basic science underpinnings of those approaches, for management of important disease conditions.

Interprofessional Experience: Chronic Disease Management PHARM 6713

0.5 credits

This interprofessional education course is designed to prepare pharmacy students to work in health care teams to improve the safety and quality of care for patients with chronic diseases in the ambulatory care setting. Through the use of simulation-based patient care management scenarios, health professions students are provided the opportunity to actively engage in learning with students from other health care professions including medicine, nursing, and others. Complex patient care management simulations form the basis for these interprofessional education experiences designed to teach the principles of team-based care, communication, patient-centered care, and improving patient outcomes.

Leadership and Management for Pharmacists PHARM 7340 2 credits

Students will learn essential skills in leadership and management for pharmacists across multiple practice settings. The course will focus on self-awareness, leading effective teams, and management principles. Students will have the opportunity to practice these skills individually and as a team completing a project related to pharmacy practice.

Pharmacy Practice Skills Lab V PHARM 7349 0.5 credit

The Pharmacy Practice Skills Lab series will emphasize the practice of foundational patient care skills while integrating knowledge learned in other courses with their practical applications in pharmacy practice. The primary skills emphasized during this longitudinal course include patient physical assessment, medication history, patient interviews, medication counseling, SBARQ, and SOAP note writing. In PPSLV, the focused skills will include SOAP notes and gastrointestinal/genitourinary/skin physical assessment.

Recitation PHARM 7350 2 credits

This recitation course will consist of active learning sessions in which students will integrate knowledge and skills taught across core courses of the Fall P3 and preceding curriculum. Students will be challenged to apply principles of therapeutics, basic sciences, drug information, critical thinking, problem solving, and professional communication to a variety of team-based activities. This course is designed to improve understanding of core concepts taught in Fall P3 courses through integration of materials and application to activities that simulate routine pharmacy practice experiences. Small group discussions and activities will be facilitated by residents/fellows, pharmacotherapy faculty, and basic science faculty.

Principles of Project Development PHARM 7352 3 credits

Principles of Project Development prepares students to conduct their own research projects. It introduces students to conducting pharmacy research, and it will guide students through the development of their proposals for their PharmD projects. Topics will include formulating a research question, literature review, research methods, study designs, human & animal subjects protection, data collection, data analysis, biostatistics, and disseminating results.

Professional Development Seminar I PHARM 7841 0.5 credits

The purpose of this seminar series is to foster in P3 students the knowledge, skills, abilities, behaviors, and attitudes necessary to demonstrate self-awareness, leadership, and professionalism throughout their careers. Successful completion of this course series is required prior to enrollment in APPE rotations. Students will participate in professional development workshops, complete portfolio assignments, and will be required to meet with their assigned mentor(s) each semester.

Elective(s) (3-5)**SPRING SEMESTER – P3: 15-17 semester credit hours****Advanced Therapeutics PHARM 7341** 6 credits

This course examines advanced pharmacy practice in several settings including community practice, primary care, acute care, critical care, managed care, transitions of care and specialty pharmacy. Case studies focus on patients with multiple interlocking disease states, using a team-based learning approach.

Interprofessional Experience: Medical Error Disclosure PHARM 6623 0.5 credits

This interprofessional education course prepares students to disclose medical errors as a health professional team. Teams of students from various health professions including pharmacy, medicine, nursing, physician's assistant, and others participate in an in-person simulation to disclose a medication error in a hospital setting that could result in serious harm or death of the patient. Students learn the basic principles of effective error disclosure in an authentic scenario where they play the role of their profession on a health care team.

US Health Care Policy PHARM 7342 2 credits

This course examines the impact of present and proposed public policy on the US health care system. In-class discussions will emphasize the complexity of our health care system; the myriad of issues it faces; as well as potential public policy solutions to these issues. In addition, an active learning approach will be used to empower students to communicate about health policy issues to other stakeholders in the systems including individuals, patients, health care professionals and decision-makers.

Professional Development Seminar II PHARM 7842 0.5 credits

The purpose of this seminar series is to foster in P3 students the knowledge, skills, abilities, behaviors, and attitudes necessary to demonstrate self-awareness, leadership, and professionalism throughout their careers. Successful completion of this course series is required prior to enrollment in APPE rotations. Students will participate in professional development workshops, complete portfolio assignments, and will be required to meet with their assigned mentor(s) each semester.

Project Development Practicum I PHARM 7851 2 credits

This course will provide students structured opportunities to work on their PharmD projects and proposals. Students will meet to discuss components of their projects, receive feedback from peers and faculty, and participate in small group work.

Elective(s) (4-6)

FOURTH PROFESSIONAL YEAR*

SUMMER SEMESTER – P4: 6-12 semester credit hours

APPE Block 1 6 credits

APPE Block 2 6 credits

FALL SEMESTER – P4: 14.5-20.5 semester credit hours

APPE Block 3 6 credits

APPE Block 4 6 credits

APPE Block 5 6 credits

Project Development Seminar III PHARM 7843 0.5 credits

Project Development Practicum II PHARM 7852 2 credits

SPRING SEMESTER – P4: 15-20 semester credit hours

APPE Block 6 6 credits

APPE Block 7 6 credits

APPE Block 8 6 credits

Interprofessional Experience: Transition of Care PHARM 6614 0.5 credits

Project Development Seminar IV PHARM 7844 0.5 credits

Project Development Practicum III PHARM 7853 2 credits

* Students participate in seven, 6-week rotations. One (1) APPE Block will be a scheduled “Off” block. *Rotations may be taken in any order subject to CORE ELMS™ Rotation scheduling lottery.*

Curriculum subject to revision. Students must complete the curriculum that is current for their class.

Career Specialization Program (P3 Electives) Policy:

- The purpose of the P3 career specialization program is to allow students to take elective courses, which build upon foundational knowledge gained in the P1 and P2 curriculum. The P3 electives should aid a P3 student in meeting their individual career goals, completing their PharmD project, and/or complement other coursework in their chosen curriculum track.
- A minimum of nine semester credit hours of elective courses (5000 or above) is required for the Doctor of Pharmacy Program in the P3 student year. The Pharmacotherapy Track and Policy/Outcomes Track must take four elective credits within the Track. Students must take at least four elective credits within their chosen curriculum track. Students may also suggest appropriate electives (including ones from other Tracks or offered by other academic departments) to their professional development mentor.
- Prior to enrolling in P3 electives, students must discuss their chosen electives and seek the approval of their assigned professional development mentor(s) within their curriculum track. The discussion should include a rationale of how proposed electives will enhance the objectives described above. The Professional Development Mentoring Checklist is used to document the elective course selection and approval.
- Under certain circumstances, students who have selected appropriate career specialization courses in years P1 or P2 may petition to apply these courses to the P3 program requirement. Examples of appropriate courses include specialized programs of study (i.e., Community Engaged Scholar, Global Health Certificate, etc.). Students who wish to apply elective credits obtained in years other than P3 towards the P3 requirement must petition the P3 Curriculum Stewards in writing. The petition shall include the benefits achieved from the non-P3 course(s) that help the student meet their career objectives. Evidence of satisfactory completion of the course(s) should be enclosed. A list of program course requirements and current progress towards completing the special program of study should also be submitted. Up to three hours of prior elective courses may be applied, at the discretion of the curriculum track steward, to meet the P3 requirement.

COLLEGE OF PHARMACY P3 ELECTIVES

Course Number		Title	Credits	Instructor	Comment
PHARM	6310	Interprofessional Telemedicine	0.5	Farrell	Consent of Professional Development Mentor
PHARM	6810	Interprofessional Disaster Preparedness and Response	0.5	Farrell	Consent of Professional Development Mentor
PHARM	7540	Advanced Pharmacy Management & Leadership	1	Bilodeau	Consent of Professional Development Mentor
PHARM	7541	CEL Elective	1-2	Nickman/Taylor	Discuss with Dr. Nickman during P1 year.
PHARM	7543	Cancer Camp	2	Beckwith	Can be used for P1 Residency Requirement but does not qualify as a P3 Elective
PHARM	7545	Cardiovascular Medicine	2	Carey/Sessions	Consent of Professional Development Mentor
PHARM	7547	Leadership & Advocacy	2	Young/Turner	Consent of Professional Development Mentor
PHARM	7548	Health Informatics	2	Moore	Consent of Professional Development Mentor
PHARM	7549	Intro to Nuclear Pharmacy & Nuclear Medicine	2	Crebs	Consent of Professional Development Mentor
PHARM	7550	Advance Health Counseling	2	Raber	Consent of Professional Development Mentor
PHARM	7552	Managed Care Elective	2	Brixner	Consent of Professional Development Mentor
PHARM	7553	Oncology Elective	2	Filtz/Sageser	Consent of Professional Development Mentor
PHARM	7554	Thrombosis Elective	2	Witt/Vasquez	Consent of Professional Development Mentor
PHARM	7556	Herbal Medicines	2	McWhorter	Consent of Professional Development Mentor
PHARM	7557	Solid Organ Transplant	1	Carlson/Sirandas	Consent of Professional Development Mentor
PHARM	7560	Palliative Care	2-3	Supiano/Ward	Consent of Professional Development Mentor
PHARM	7561	Pediatrics Pharmacotherapy	2	Benefield	Consent of Professional Development Mentor

PHARM	7562	Outcomes Research Elective	2-3	Brixner	Consent of Professional Development Mentor
PHARM	7563	Outreach Poison Prevention Education Elective	2	Pace	Consent of Professional Development Mentor
PHARM	7564	Psychopharmacology Elective	2	Denio	Consent of Professional Development Mentor
PHARM	7566	Systematic Reviews and Meta-Analysis	2	LaFleur	Consent of Professional Development Mentor
PHARM	7567	Clinical Toxicology Elective	2	Johnson	Consent of Professional Development Mentor. May also be appropriate for students in the Pharm Sci Track.
PHARM	7840	Journal Club	1	LaFleur/Moorman	Consent of Professional Development Mentor
PHARM	7850	Career as Product	1	Blumenthal	Consent of Professional Development Mentor. Can be taken to satisfy the P1 Residency Requirement
PHARM	7860	Pharmacy & Therapeutics Committees Elective	1	Brixner	Consent of Professional Development Mentor
PHARM	7910	Special Problems in Medicinal Chemistry	1-3	MDCH Faculty	Consent of Professional Development Mentor
PHARM	7920	Special Problems in Pharmaceutics	1-3	PHCEU Faculty	Consent of Professional Development Mentor
PHARM	7930	Special Problems in Pharmacology	1-3	PHTX Faculty	Consent of Professional Development Mentor
PHARM	7940	Special Problems in Pharmacotherapy	1-3	PCTH Faculty	Consent of Professional Development Mentor

P3 ELECTIVE COURSES OUTSIDE THE COLLEGE OF PHARMACY

Course Number		Title	Credits	Instructor	Comment
FPMD	7540	Culinary Medicine	1	Locke	Consent of Professional Development Mentor
MDCRC	6000	Introduction to Biostatistics	2	Stoddard	Consent of Professional Development Mentor
MDCRC	6010	Introduction to Epidemiology	1	Sweeney	Consent of Professional Development Mentor
MDCRC	6020	Data Management	1	LaSalle	Consent of Professional Development Mentor
MDCRC	6030	Computer Practicum	1	Stoddard	Consent of Professional Development Mentor
MDCRC	6110	Intermediate Epidemiology	2	Sweeney	Consent of Professional Development Mentor
MDCRC	6120	Cost-effectiveness Analysis	2	Bellows	Consent of Professional Development Mentor
MDCRC	6125	Cost-effectiveness II	2	Bellows	Consent of Professional Development Mentor
MDCRC	6150	Foundations in Personalized Health Care	2	Joshua Schiffman	Consent of Professional Development Mentor
MDCRC	6210	Regression Models	2	Stoddard	Consent of Professional Development Mentor
MDCRC	6220	Survey Methods	2	Millar/ Olson	Consent of Professional Development Mentor
MDCRC	6270	Methods in CER	2	Joseph Biskupiak	Consent of Professional Development Mentor
MDCRC	6521	Intro to Computer Programming	1-5	Chapman	Consent of Professional Development Mentor
UUHSC	6811	Health Law for Non-Lawyers	2	Leslie Francis/ Teneille Brown	Consent of Professional Development Mentor

Note 1 – the above MDCRC courses are appropriate for the Policy/Outcomes Track with consent of the student's professional development mentor.

Note 2 – 6000- or 7000-level courses offered by other academic departments may be appropriate electives but must be discussed and approved by the student's professional development mentor.