

PHARMACY (PHAR)

PHAR 511. Public Health Microbiology. (2 Credits)

Public Health Microbiology describes the methods that industrialized countries use to ensure the safety of their populations from infectious disease. Topics covered include water and wastewater treatment, food microbiology, vaccines, sexually transmitted diseases, biostatistics, and epidemiology.

Prerequisite: PHAR 314.

PHAR 513. Community Compounding Practice. (2 Credits)

This course is designed to expose the student to dosage forms not seen in their previous required pharmaceuticals compounding labs and to challenge student's creative/analytical thinking through product creation and formulation development. An emphasis will be placed on quality assurance/quality control as well as product analysis. We will cover topics and create products unique to community extemporaneous compounding pharmacy practice. Dosage forms covered will focus on special populations such as: pediatric, veterinary, pain control, BHRT, cosmeceuticals, sterile compounding from non-sterile products and more. Each student will have the opportunity to create a lab and compound designed specifically to their interests. The goal of this course is to expand on the students' current knowledge of community extemporaneous compounding pharmacy and to discover and create innovative ways to treat patients in the community using extemporaneous compounding pharmacy skills and techniques.

Prerequisites: PHAR 322 and 426.

PHAR 515. Veterinary Pharmacy Practice. (1 Credit)

This is an elective course designed to give students the opportunity to understand the basics of Veterinary Pharmaceuticals. The course will provide as a foundation for clinical practice where pharmacists are increasingly asked to dispense medications for dogs and cats. The course will cover commonly used veterinary medications as well as human medications commonly used in veterinary medicine. The purpose is to give students a working knowledge of veterinary pharmaceuticals to be better prepared for this growing field.

PHAR 517. Global Pharmacy Experience - Spanish World of Pharmacy – Parts 1, 2, and 3. (2 Credits)

In Spanish World of Pharmacy students have the opportunity to learn and experience pharmacy practice, education, and culture in Spain. During the study abroad trip, students will attend classes in both English (relating to the formation and practice of pharmacy in Spain), and in Spanish (relating to Spanish language and culture) at CEU Universidad San Pablo in Madrid. In addition to learning about pharmacy practice and culture, students will be able to experience them first hand through selected pharmacy experiences such as visiting local pharmacies, hospitals, and pharmaceutical companies, and cultural experiences like taking a day trip to Toledo, touring the Prado museum, and attending a flamenco show.

PHAR 519. Medication Use in Public and Population Health. (2 Credits)

Medication Use in Public and Population Health is an elective interprofessional course that is open to any Concordia graduate or professional student. This course will explore basic principles surrounding the prevention, management, and consequences of intentional and unintentional medication exposure within areas of public and population health.

PHAR 523. Pharmaceutical Biotechnology. (2 Credits)

This course will introduce basic techniques of modern biotechnology related to biological processes with emphasis on those salient to the realm of drug discovery and drug therapy. Applications to monoclonal antibody products, interferons, interleukins, vaccines, hematopoietic growth factors, and growth factors are included, along with gene knockout technology, in vivo fluorescent labeling, flow cytometry, and stem cells. Future prospects for utilization in organ replacement, gene therapy, in utero cell repair are discussed.

Prerequisite: PHAR 434.

PHAR 531. Clinical Toxicology. (2 Credits)

This course will focus on the clinical management of the "poisoned" patient. Students will be exposed to the clinical presentation and treatment of patients experiencing toxicity from medications and biologicals. This course will review and reinforce the student's knowledge of the fundamentals of pharmacology and toxicology. The course will re# emphasizing critical objectives with regard to the mechanisms of action, absorption, distribution, metabolism, elimination in addition to clinical practice and treatment. Prerequisites: Satisfactory completion of the Pharmacology and medicinal chemistry series.

Prerequisite: PHAR 434.

PHAR 535. Global Pharmacy Experience - Study of Culture and Medicinal Plants of the Amazon Rainforest. (3 Credits)

This experience is designed to allow students to study and experience the history, culture, and health beliefs of a developing country with a culture different from their own in order to expand their understanding of culture's influence on the health care experience in another part of the world. The pre- trip will involve lectures, discussions and assignments that will help students to gain a better understanding of these attributes. Visiting the country will enable participants to get a firsthand view of the health care system available and potential roles of pharmacists during a 2-week trip to the country. Pharmacists serve in diverse cultures, so the need for skills in cultural competence is important. This course provides the opportunity for "hands on" study in the rainforest of Peru. Students will live on a reserve, and travel to meet with botanists, taxonomists, pharmacists, shamans, and farmers. Time in the classroom will focus on the pharmacology, physical chemistry, and ethnobotany of a variety of indigenous plants. Note: Successful completion of all P-1 courses or permission of instructor is required for enrollment.

PHAR 537. Medicinal Natural Products. (2 Credits)

This course is designed to familiarize the student with the identification, application, and evaluation of pharmaceutical products originating from natural sources. The course will combine principles of basic science with pharmaceutical applications. Topics include: biodiversity and chemotaxonomy; biosynthesis; secondary metabolite-based drug development; social, legal, and harmful aspects of herbs and supplements; ethnopharmacology and cultural/traditional use of natural products. This course will provide students practical knowledge of the origins of medicines, so that they may better appreciate the complex world around them. The end goal is to engage students to learn in depth about ways nature is utilized to treat disease. This helps students to become more knowledgeable pharmacists and global citizens.

Prerequisite: PHAR 434.

PHAR 539. Pharmacogenomics. (2 Credits)

Driven by advances in genomics technology and the resultant increased capacity to understand an individual's genetic make-up, the emerging field of pharmacogenomics is increasingly informing clinical therapeutics and future drug design. This course is designed to provide students with an improved understanding of the complexities in identifying clinically significant genetic variation to predict the right choice and dose of medications for an individualized approach to medicine. Toward this end, the course will examine genetic principles and genomic technologies facilitating pharmacogenetic advances. Students will advance their knowledge of specific genetic principles inherent to non-disease states, disease states, ethnicity, and other factors known to impact drug response and individual patient outcomes. As the course advances, students will be guided to apply this knowledge to pharmacy practice through readings from the current literature, design of practice plans, and other relevant activities that will lead to an advanced understanding of how genetic variation influences pharmacologic principles, e.g. dose-response relationships and metabolism, and diseases including cardiovascular, CNS, hematologic, and immune systems as well as cancer. Consideration of the limitations of pharmacogenomics and ethical issues will also provide a complete perspective of the current and future impact of this important field.

Prerequisite: PHAR 434.

PHAR 540. Epidemiology and Pharmacoeconomics. (2 Credits)

The course provides an overview of epidemiology and identifies principles and methods of pharmacoeconomic analyses including the strengths and weaknesses of specific methods. Practical examples for successful implementation of these concepts are discussed.

Prerequisite: PHAR 462.

PHAR 542. Poisons Seminar. (1 Credit)

This course will focus on the clinical management of the "poisoned" patient through a series of selected cases. Students will be exposed to the clinical presentation and treatment of patients experiencing toxicity from medications, chemicals, and biologicals. This course will review and reinforce the student's knowledge of the fundamentals of pharmacology and toxicology, and medical literature evaluation. The course will re-emphasize critical objectives with regard to mechanism of action, absorption, distribution, metabolism, elimination, in addition to clinical practice and treatment.

Prerequisite: PHAR 434.

PHAR 543. Managed Care Pharmacy Seminar. (1 Credit)

This course builds on concepts and topics introduced during required coursework that are related to managed care pharmacy and the healthcare system within the United States. Expert guest lectures, journal evaluation, reflective writing, and critical thinking activities may be utilized to enhance the learning experience of students within the online classroom. The course will address general principles of managed care pharmacy including, but not limited to: prescription drug benefits, formulary management, quality assurance programs utilized by managed care organizations (MCOs) and strategies to optimize clinical and economic outcomes. Additionally, students will be introduced to professional practice opportunities for pharmacists within managed care settings. Prerequisites: P3 standing or consent of instructor.

PHAR 544. Patient Care Ethics. (3 Credits)

This course will cover basic concepts concerning the profession of pharmacy and the health care field. Topics to be covered include but are not limited to: genetic testing and therapy, organ transplantation, end-of-life care, human subject and animal research, and access to health care. Students will examine how contemporary principles address professional issues. The students will be enabled to articulate their perspectives and make informed decisions compatible with the profession.

PHAR 546. Quality and Performance Management in Healthcare. (3 Credits)

This course provides an introduction to concepts and topics related to quality and performance management principles in healthcare. Students are introduced to performance management principles including human resource, operational and financial management of healthcare. Additionally, students are introduced to quality and patient safety principles including topics in error reporting systems and disclosure, principles of human error and human factors engineering, and the ability to apply quality improvement initiatives within a health system. Students will apply the didactic knowledge learned in the course through interprofessional team activities that include: root cause analysis and failure mode effect analysis.

PHAR 547. Pharmacy and the Underserved. (2 Credits)

This course is meant to provide additional opportunities for pharmacy students to develop skills and knowledge in providing care to underserved patients. The class will consist of three different units focusing on issues related to caring for medically underserved individuals from an urban, rural, and global perspective. Each unit will contain central themes of policy and resources, patient care, and cultural competence. The capstone project of the semester will be an Underserved Project Summary which should outline how this elective impacted your APC 6 service project.

PHAR 548. Pharmacy Law. (2 Credits)

This course covers federal and state statutes, rules, and regulations that affect pharmacy practice and selected aspects of general law. Interpretation of those laws affecting the practice of community and institutional pharmacy is emphasized.

PHAR 549. Big Pharma: Markets & Culture. (2 Credits)

The multi-national pharmaceutical industry grew exponentially in the 1990s, producing blockbuster drugs, new (global) markets, and, some would argue, new "disorders." This course will explore the roots and tactics of this growth and trace pharmaceutical sales and marketing practices into the current era. Students will gain a deep understanding of how the industry markets products to prescribers, pharmacists, and medical consumers, from the activities of drug reps to direct-to-consumer advertising. A persistent theme of the course will be the cultural impact of modern pharmaceuticals on society and personhood.

PHAR 550. Pharmacotherapy IV. (4 Credits)

This is the fourth of five courses in which students learn about pharmacotherapy (the treatment of disease through the use of medications). Pharmacotherapy IV is designed to teach students the pathophysiology, epidemiology, and treatment of certain oncologic, pulmonary, psychiatric, neurologic, and pain disorders. Prerequisite: PHAR 452.

PHAR 551. Critical Care Pharmacy Practice. (1 Credit)

(LECTURE ONLY) This course provides an introduction to concepts and topics related to the care of a critically ill patient. Weekly lecture topics include the pathophysiology and management of selected diseases affecting major organ systems and requiring intensive care therapy. (This course is lecture based and does not include the journal club in the second hour.)

Prerequisites: PHAR 434 and 452.

PHAR 552. Pharmacotherapy V. (4 Credits)

Pharmacotherapy V is the last of five courses in the Pharmacotherapy series. The course is designed to teach students the epidemiology, etiology, pathophysiology, clinical presentation, treatment options and evaluation of therapeutic outcomes of a variety of diseases affecting men's and women's health, nutrition, solid organ transplant, liver and gastrointestinal diseases.

Prerequisite: PHAR 550.

PHAR 553. Infectious Diseases Pharmacotherapy Seminar. (1 Credit)

This once-weekly seminar series serves to introduce timely Infectious Diseases (ID) Pharmacotherapy topics to the student, and it will facilitate a more detailed discussion of select ID conditions. The role of the pharmacist in ID state management will be emphasized using an interactive Grand Rounds type format. Students will be asked to prepare in advance and will be expected come to seminar with analytical questions for the speaker. In addition to presentations by CUW SOP faculty members, local expert pharmacists will present in their areas of expertise. Students will be assessed based upon participation and targeted assignments that correlate with select seminar presentations. Students will also complete a service project as part of this elective course.

Prerequisite: PHAR 452.

PHAR 557. The Diabetes Experience. (1 Credit)

This course is designed to enhance and expand student's knowledge base, empathy, and ability to effectively work people that have diabetes through hands on learning and personal experience with the cornerstones of Diabetes Management. The class approach will have each student participate in the management of diabetes as a patient and as a peer educator. Student activities will include attending education classes on the basics of diabetes care, self-recording various aspects of their daily lifestyle including food and exercise log, daily intake of "placebo" medications, blood glucose monitoring, and injection of placebo insulin (injections will be for 1 week of the class with the option of wearing a placebo insulin pump). Students will also get a firsthand experience of motivational interview and goal setting to make changes as if they were the person with diabetes. This course matches the CU Mission and SOP curricular goal to develop student pharmacists in mind and spirit to provide value-based patient centered care for service to the world.

Prerequisite: PHAR 452.

PHAR 559. Ambulatory Care Pharmacy Practice. (2 Credits)

Ambulatory care is a growing aspect of pharmacy practice. Pharmacy graduates are given the clinical knowledge to manage chronic conditions and to assess patients with complex medication regimens through skills gained in clinical courses. This course will help students to further develop their clinical problem-solving skills and introduce the practice management skills needed to develop and maintain an ambulatory care practice.

Prerequisites: PHAR 452 and 472.

PHAR 561. Pharmacy Practice Research. (1 Credit)

Pharmacy Practice Research is about engaging in scholarship and scholarly processes as a practicing pharmacist by turning one's observations into questions and researching them in a methodical process. Scholarly processes involve methodically gathering, analyzing, and using information to improve outcomes. These processes become scholarship when we disseminate what we learn for use by others. Scholarship includes an internal or external peer review process to validate the methods, analysis, and value of the information for others. As pharmacists in residency, practice, and/or education, the scholarly process and scholarship is often part of our expectations. This expectation could be within an organization as part of a quality assurance process or for dissemination to the broader profession. In this course, students will explore the scholarly process and turn their observations into research questions that will have plans to be answered. Types of practice-based and education-based research/scholarship as well as the venues for their dissemination will be explored, but the methods for designing and successfully conducting research through an intentional plan will be the focus of this course.

Prerequisite: PHAR 462.

PHAR 563. Pharmacy Practice Journal Club. (2 Credits)

Medical literature evaluation in clinical settings and practitioner-driven journal clubs will be part of many APPE rotations and practice expectations as a pharmacist. Medical Literature Journal Club is an elective course designed to give students the opportunity to develop their medical literature evaluation skills in a journal club setting. Advanced beyond evaluation of literature in Medical Literature Evaluation I and II, Medical Literature Journal Club puts students in an independent role of lead presenter of journal club articles with their peer P3 students. Also beyond Medical Literature I and II, students serve a role as journal club facilitator for P2 students as part of the P2 students' introductory journal club experiences in Medical Literature Evaluation II. The course will also develop students' skills identifying which articles are most germane to their upcoming practice and warrant evaluation, realizing that the volume of literature in practice exceeds that which can be read and necessitates prioritization. Finally, the course introduces students to grand rounds and other in-service presentations and gives them the chance to retrieve, analyze, and apply the literature during the development and delivery of a grand rounds presentation.

Prerequisite: PHAR 462.

PHAR 565. Oncology Practice Seminar. (1 Credit)

Oncology Practice Seminar is a seminar-based course that will provide an overview of the unique aspects of oncology pharmacy practice. Students will also gain experience in creating educational tools through completion of a longitudinal educational project. Students will learn about the complex issues facing patients with cancer and gain insight into providing care as an oncology pharmacy specialist.

Prerequisite: PHAR 550.

PHAR 566. Research Design, Methods, and Ethics. (2 Credits)

The course will introduce graduate students to the processes involved in research design. This class will introduce the approach to generating a research question, conducting scientific inquiry (i.e. Literature Review), choosing a research design methodology that adequately addresses the research question, data collection and management methods, sound approaches to optimize the reproducibility of research and reporting relevant to basic pharmaceutical sciences, social/behavioral, and health services research. We will also discuss the purpose of review bodies such as IRB and IACUC. Lastly, we will discuss guiding principles of conducting ethical research. At the end of the course, each student should develop a research proposal that must be approved by a faculty mentor and evaluated by the course coordinators.

PHAR 567. Specialty Pharmacy. (2 Credits)

This course builds on concepts and topics from required coursework related to the care of the elderly patient. Expert guest lecturers, a broad variety of topics, and active learning techniques such as small group discussion, case evaluations, and simulation may be utilized to enhance the learning experience. The course will address general principles of aging and geriatric assessment skills, pharmacotherapy of selected disease states and syndromes common in the senior population, as well as other pertinent issues related to geriatric care. Additionally, students will complete a project in which course content and skills will be applied to patients in the community.

PHAR 569. Pharmaceutical Sciences Journal Club. (1 Credit)

This twice-monthly journal club serves to develop pharmacy students in the latest pharmaceutical science research and scholarship trends. Advanced reading and discussion skills of current pharmaceutical science literature will build skills useful for APPE rotations and practice settings and knowledge that can impact pharmacy practice. It will facilitate discussion of student ideas for scholarship projects and provide an opportunity for students to network with potential faculty mentors who will facilitate discussions. Students will be asked to prepare in advance and will be expected to come to journal club prepared to interact with the class and the facilitating faculty or student. Topics for discussion will be chosen based on CUW SOP faculty research, P3 and P4 Laboratory Research Pathway student projects, or other student interests.

Prerequisite: PHAR 460.

PHAR 570. Applied Patient Care V. (2 Credits)

Applied Patient Care V is the fifth of six integrated patient care skill development courses in the School of Pharmacy curriculum. It is a patient-centered course that uses simulated patient scenarios and case studies to build students' foundational skills in drug information retrieval, patient interviewing, patient education, and critical thinking in the context of pharmacy's multiple disciplines. The first four courses in this series focused on the specific direct patient care skills of gathering a medication list, providing patient education, conducting a comprehensive interview of a new patient, providing a verbal care plan to a patient, patient follow-up, clinical documentation, and provider communication with much of the therapeutic content coming from Pharmacotherapy I#III. Applied Patient Care V continues to build on these skills while incorporating skills from the concurrent Pharmacotherapy IV course. It will also continue to develop students' skills in drug information, cultural competence, and health literacy while integrating with the didactic curriculum and the IPPE series. Prerequisites for course include P3 Standing and concurrent registration in Pharmacotherapy IV or consent of instructor.

Prerequisite: PHAR 472.

PHAR 571. Geriatric Pharmacy. (2 Credits)

This course builds on concepts and topics from required coursework related to the care of the elderly patient. Expert guest lecturers, a broad variety of topics, and active learning techniques such as small group discussion, case evaluations, and simulation will be utilized to enhance the learning experience. The course will address general principles of aging and geriatric assessment skills, pharmacotherapy of selected disease states and syndromes common in the senior population, as well as other pertinent issues related to geriatric care. Additionally, students will complete a project in which course content and skills will be applied to patients in the community.

PHAR 572. Applied Patient Care VI. (2 Credits)

Applied Patient Care VI is the last of six integrated patient care skill development courses in the School of Pharmacy curriculum. It is a patient-centered course that uses simulated patient scenarios and case studies to build students' foundational skills in drug information retrieval, patient interviewing, patient education, and critical thinking in the context of pharmacy's multiple disciplines. The first five courses in this series focused on the specific direct patient care skills of gathering a medication list, providing patient education, conducting a comprehensive interview of a new patient, providing a verbal care plan to a patient, patient follow-up, clinical documentation, and provider communication with much of the therapeutic content coming from Pharmacotherapy I#IV. Applied Patient Care VI continues to build on these skills while incorporating skills from the concurrent Pharmacotherapy V course. It will also continue to develop students' skills in drug information, cultural competence, and health literacy while integrating with the didactic curriculum. In addition, students will have the opportunity to continue to build skills in leading change within pharmacy and becoming servant leaders. (Includes patient care skills teaching laboratory.)

Prerequisite: PHAR 570.

PHAR 573. Advanced Mental Health Pharmacotherapy. (2 Credits)

This elective course serves to build upon mental health knowledge learned in Pharmacotherapy IV (Phar 550) and to develop an even broader knowledge base of psychiatric and neurologic disease states. Lecture time will be divided between didactic teaching and case based learning. Students will learn to apply psychopharmacologic and therapeutic management strategies to treat these disorders through the use of interactive patient cases and clinical scenarios. Other methods of teaching and learning (videos, literature evaluation, patient counseling, expert panels, etc.) may also be used to illustrate key points and present material.

Prerequisite: PHAR 550.

PHAR 575. Medical Spanish for Pharmacist. (2 Credits)

In Medical Spanish for Pharmacists, students continue to explore and experience the roles and responsibilities of the professionally oriented pharmacist and the importance of effective communication between pharmacists and patients. Students will learn to perform patient education and medication list retrieval in Spanish as well as participate in a service learning opportunity, which will include a 4 hour volunteering experience with the Hispanic community. In this course, students will be required to speak, listen, and write in Spanish. A portion of most lectures will be taught in Spanish.

Prerequisite: PHAR 372.

PHAR 577. Women's Health Issues in Pharmacy Practice. (2 Credits)

Women's Health Issues in Pharmacy Practice provides an overview of diseases and health issues affecting women across their life span through the female patient's perspective. Women's advocacy activities will include female-centered community service. Students will learn how to provide female patients individualized medication therapy to fit her everyday medical needs while balancing psychosocial influences of her everyday life.

Prerequisite: PHAR 550.

PHAR 579. Advanced Cardiology Topics. (1 Credit)

This course is designed to enhance and expand student's knowledge base in cardiology topics. This course will build upon the knowledge base obtained in pharmacotherapy and medical literature evaluation courses. Student will utilize literature evaluation skills to conduct a weekly journal club. Weekly lectures will focus on unique cardiology conditions that are not covered in depth in the core curriculum. In addition, students will be learning the basics of electrocardiogram interpretation through weekly study.

Prerequisite: PHAR 550.

PHAR 581. Longitudinal Pharmacy Practice Experience and Project Management (IPPE-5). (4 Credits)

During the elective semesters of the experiential education curriculum, students will continue to explore and experience the roles and responsibilities of a professional pharmacist. Students will participate in the practice of pharmacy with pharmacists, patients, and other healthcare providers and will apply knowledge obtained in the required curriculum. The course will consist of longitudinal off-campus rotation experiences in a variety of pharmacy practices, as well as on-campus discussions.

Prerequisites: PHAR 462 and 482.

PHAR 583. Introductory Pharmacy Practice Experience-6 (IPPE-6). (3 Credits)

During the elective IPPE-6 course, students will continue to explore and experience the roles and responsibilities of a professional pharmacist. Students will participate in the practice of pharmacy with pharmacists, patients, and other healthcare providers, applying knowledge and skills obtained in the required curriculum. Additionally, students will continue growing their project management skills by formulating a research question and then methodically gathering, analyzing, and using information to improve/change practice.

Prerequisite: PHAR 581.

PHAR 591. Pediatric Pharmacology and Therapeutics. (2 Credits)

This course is intended to be an overview of the healthy, acutely ill, and chronic - complex pediatric patient. A focus of this course will be the preventative and supporting pharmaceutical therapies used in managing these types of patients. The approach taken will be by age group and organ system. The course covers pharmaceutical management in both ambulatory and inpatient settings. Age groups covered will include fetal, preterm, term infant, toddlers, preschool, school age, and teenage.

Prerequisite: PHAR 452.

PHAR 593. Analytical Characterization of Drugs and Other Chemicals. (3 Credits)

This course provides brief lectures on the purification and spectral characterization of pharmacologically important molecules. The majority of the class is not taught in the classroom, but consists of lab work to be done using analytical instrumentation – especially NMR, but also IR, MS and HPLC. Weekly lab exercises are to be performed, and at the end of the semester the students provide a report that summarizes their experiments and results. Students will pursue a hands-on project of their choice: characterizing drug impurities during manufacturing, API or precursor integrity in various steps in the pharmaceutical supply chain, natural products from Lake Michigan or the Amazon rain forest (Peru), and pollutants or poisons identified by regional agencies (poison control; EPA). Students will be encouraged to think of projects relevant to their interests (ex. comparing generic vs. name brand drugs; drugs at or past their expirations dates). Completion of the course makes students eligible for various paid summer internships.

Prerequisite: PHAR 434.

PHAR 597. Critical Care Pharmacy Practice Journal Club. (1 Credit)

(LECTURE AND JOURNAL CLUB) This course provides an introduction to concepts and topics related to the care of a critically ill patient. Weekly lecture topics include the pathophysiology and management of selected diseases affecting major organ systems and requiring intensive care therapy. The critical care journal club focuses on the review of primary literature related to critical care topics covered in the lecture hour. (This course registration includes both the lecture and the journal club.)

Prerequisites: PHAR 434 and 452.

PHAR 601. Special Topics. (1-4 Credits)

Also often referred to as independent study, a student and faculty pair submit a learning plan for self-directed, small group learning throughout the semester. Typical load is 45 hours of effort per credit. Requires consent instructor and Associate Dean for Academic Affairs.

PHAR 602. Pharm Special Topics - Project. (1-4 Credits)

Also often referred to as independent study, a student and faculty pair submit a learning plan for self-directed, small group learning throughout the semester. Typical load is 45 hours of effort per credit. Requires consent instructor and Associate Dean for Academic Affairs. For more information, contact Dr. Mike Brown at michael.brown@cuw.edu

PHAR 607. Study of the Culture, Traditional Medicine, and Health Care of Japan. (3 Credits)

This experience is designed to allow students to study and experience the history, culture, and health beliefs of a developing country with a culture different from their own in order to expand their understanding of culture's influence on the health care experience in another part of the world. Pharmacists serve in diverse cultures, so the need for skills in cultural competence is important. This course provides the opportunity for "hands on" study of pharmacy (both traditional and modern) in the Japanese culture.

PHAR 671. Clinical Pharmacy and Pharmacy Law Continuing Professional Development. (2 Credits)

Continuing professional development and life-long learning are central to success in the profession of pharmacy. This includes both clinical content and laws related to the practice of pharmacy. Building on the knowledge, skills, and attitudes from the earlier and concurrent coursework in the Doctor of Pharmacy program, this course further develops learners' abilities to be life-long learners in the profession of pharmacy.

PHAR 680. Community Pharmacy APPE. (6 Credits)

During the required Community Pharmacy APPE, pharmacy students under the supervision of a Clinical Instructor will gain experience in community pharmacy practice including, but not limited to, dispensing procedures, pharmacy law, practice management, and OTC pharmacotherapy assessment. The student will perform medication list retrieval, patient education, clinical documentation, and other patient care skills as appropriate for their rotation site. The student will develop a philosophy of community pharmacy practice regarding the role of the pharmacist as a member of the health care team. (Full-time practice site-based learning.)

PHAR 682. Acute Care Medicine APPE. (6 Credits)

The acute care medicine APPE rotation is a 6 week experiential rotation where the students learning will focus on applying didactic coursework and patient care skills to the care of acutely ill, hospitalized patients. Students will actively participate in the delivery of patient care by assuming their role in an interdisciplinary healthcare team. (Full-time practice site-based learning.)

PHAR 684. Hospital-Health System Pharmacy / Advanced Pharmacy Practice Experience. (6 Credits)

During the required Hospital/Health System Pharmacy APPE, pharmacy students under the supervision of a Clinical Instructor will gain experience in a hospital's central pharmacy and distributive processes. Students will gain skill and experience in hospital pharmacy practice including, but not limited to, the medication use process, automation/computerization, sterile and nonsterile product preparation, quality assurance and medication safety, practice management, and interdisciplinary communication. The student will prepare and process medication orders, identify and resolve drug therapy problems, provide patient care, and participate in hospital pharmacy operations as appropriate for their rotation site. The student will develop a philosophy of hospital/health system pharmacy practice regarding the role of the pharmacist as a member of the health care team. (Full-time practice site-based learning.)

PHAR 686. Ambulatory Care APPE. (6 Credits)

The ambulatory care APPE rotation occurs in a variety of practice settings, including, but not limited to, community retail pharmacies, hospital outpatient pharmacies, clinics and physician offices. During this experience, students learning will focus on applying didactic coursework and patient care skills to the care of ambulatory patients. Students will be active participants on the interdisciplinary team and engage in activities involving the delivery of quality, comprehensive pharmaceutical care, including clinical care conferences, patient education and interviewing, drug therapy monitoring, physical assessments, and drug information questions. The student will actively participate in the health care decision-making process, especially as it pertains to drug therapy. (Full-time practice site-based learning.)

PHAR 688. Elective APPE. (6 Credits)

The CUWSOP experiential curriculum offers ample opportunities for students to customize and specialize their rotation experiences in the year of APPEs. Students may pick from a variety of elective opportunities, including advanced ambulatory care, management, drug information, government, academia, advanced internal medicine, intensive care, emergency medicine, poison center, industry, and international rotations just to name a few. (Full-time practice site-based learning.)

PHAR 690. Emergency & Disaster Response APPE. (1-6 Credits)

During this course, pharmacy students completing their Advanced Pharmacy Practice Experiences (APPEs) will continue to explore the roles and responsibilities of a professional pharmacist and gain experience in the profession, specifically in the setting of emergency and disaster response. Students will participate in the practice of pharmacy with pharmacists, patients, and other healthcare providers and will apply knowledge obtained in the required curriculum.