Sullivan University

College of Pharmacy and Health Sciences

DOCTOR OF PHARMACY COURSE DESCRIPTIONS

FIRST PROFESSIONAL YEAR

PHR 5001: Introduction to Health Care System

Introduction to Health Care System (PHR 5001) presents a current and comprehensive overview of the U.S. healthcare delivery system. Healthcare is a complex system that is affected by various influences. This course focuses on the social, organizational, and economic aspects, as well as the impact of politics and legislation on the delivery of healthcare. Problems that have had an impact upon the system will be examined as well as approaches to solve these issues.

PHR 5002: Human Physiology

This course provides the student with the understanding of the physiological basis of body functions to maintain homeostasis. The essential concepts of physiology and the mechanisms involved in body functions are discussed in the cellular, molecular, tissue, and organ system levels. Emphasis is placed in understanding the integrated regulation of various body processes among the major systems to maintain homeostasis. A prior knowledge of anatomy, cell biology, molecular cell mechanisms, and basic concepts of physiological control mechanisms is required prior to taking this course.

PHR 5003: Pharmaceutics I

The course underlines the basic physicochemical principles and technologies involved in the preparation of pharmaceutical dosage forms and drug delivery systems. The course will demonstrate the interrelationship between pharmaceutical and biopharmaceutical principles, product design, formulation, evaluation and the clinical applications of the various dosage forms in patient care.

PHR 5004: Pharmaceutical Calculations with Lab

The course provides an introduction to the metric, avoirdupois, and apothecary systems of measurement and the calculations used in pharmacy practice. Topics include ratio and proportion, dosage determinations, percentage preparations, reducing and enlarging formulas, dilution and concentration, aliquots, specific gravity and density, and flow rates. Upon completion, students should be able to perform correctly the calculations required to prepare a medication order properly.

PHR 5005: Pharmacy Law and Ethics

This course focuses on the laws, regulations, and related ethical issues relating to the practice of pharmacy. The regulation and control of drugs, cosmetics, medical devices, mail order, and "internet" pharmacy will also be presented.

PHR 5007: Patient Care Lab

This course focuses on the role of the pharmacist in providing safe and effective medication use to patients. It will integrate topics taught throughout the first professional year and concentrate on communication, quality assurance, drug distribution, and OTC product recommendation.

PHR 5009: Development of the Student Pharmacist

This course will provide an introduction to the practice of pharmacy. The role of the profession in healthcare will be discussed inclusive of the history of the profession. The focus will be on the soft sciences in the context of the profession of pharmacy as well as the personal and professional development of each student pharmacist.

PHR 5200: Immunology

This course provides the fundamental background of the human immune system. Topics include composition and function of immune system, anti-microbial immunity, disorders of the immune system, tumor immunology, transplantation rejection, and clinical application of immunology including therapeutic antibodies, vaccines, and diagnostic tools.

PHR 5201: Medication Safety

Students will learn about the mechanism and roots of medication errors and their consequences on patients and health care in general. Mechanisms to promote medication safety will also be examined. This course is an introduction to the availability of various technologies applicable to the delivery of pharmacy care, their impact on pharmacy practice, and their applications to patient care.

PHR 5202: Biochemistry

A review of the structure, physical/chemical properties, function, and interactions of amino acids, peptides and proteins, nucleotides, nucleic acids, carbohydrates, lipids, and hybrid molecules with an emphasis on application to medication and clinical uses.

PHR 5203: Pharmaceutics II with Lab

This course is designed to introduce the PharmD students to the principles, practices and technics of pharmaceutical dosage from preparation. Students will learn and apply the methods and technics for compounding non-sterile preparations with accuracy of dose of active pharmaceutical ingredients, appropriate type and quantities of additives to prepare products which are free from contaminants, stable, safe and effective. In addition, students will gain the knowledge and understanding of the scientific principles and quality standards for evaluation of the compounded products.

PHR 5204: Communication and Collaborative Solutions

Rudiments of communication skills will be practiced; the mechanism of conflicts will be explored and the techniques to establish a harmonious working relationship or to defuse/prevent conflicts at the workplace will be taught.

PHR 5206: Patient Care Lab

This course focuses on the role of the pharmacist in providing safe and effective medication use to patients. It will integrate topics taught throughout the first professional year and concentrate on communication, quality assurance, drug distribution, and OTC product recommendation.

PHR 5400: Clinical Microbiology and Antibiotics Basics

This course is designed for students who have had an introduction to basic microbiology. Emphasis will be placed on the aspects of clinical microbiology and anti-microbial treatment that pertain to pharmaceutical science, pharmacotherapeutics, and patient-centered care. The course will discuss the principles of infectious diseases and common infectious diseases of individual organ systems. A comprehensive overview of antibiotic basics will also be presented.

PHR 5402: Research Design and Literature Evaluation I

Students will become familiarized with the skills required to handle different types of drug information questions and the techniques on how to fully evaluate biomedical literature and health care related issues. Students will also be introduced to the different phases of research and processes involved in the drug approval process. Application of the information taught in the course will be emphasized throughout.

PHR 5404: Public Health Issues

This course is designed to survey the basic principles of public health practice from a pharmacy perspective. Information discussed will include an introduction to the infrastructure of public health, analytical tools employed in public health, biopsychosocial perspectives of public health problems, health promotion and disease prevention, quality in public health, and legal/ethical concerns.

PHR 5405: Biotechnology

This course provides an introduction to biotechnology and its impact on the drug development and practice of pharmacy. Topics include how biotechnology is used to produce biotech drugs, how those drugs work, and the predicted potential and current limitations of biotech drugs.

PHR 5407: Patient Care Lab

This course focuses on the role of the pharmacist in providing safe and effective medication use to patients. It will integrate topics taught throughout the first professional year and concentrate on communication, quality assurance, drug distribution, and OTC product recommendation.

PHR 5408: Self Care I

This course will offer an overview of conditions and products that patients use in self-care treatment. The course will focus on the pharmacotherapy and the role of the pharmacist in disease state management related to self-care (using nonprescription and herbal therapy). Emphasis will be placed on the integration of pathophysiology, pharmacology, and therapeutics to devise appropriate pharmacy care plans. These plans will include rationale for drug use, selection and dosing regimens, expected outcomes of drug therapy, key monitoring parameters, clinically important drug-drug or drug-disease interactions, counseling, and compliance issues. This course will also help to introduce students to clinical scenarios likely to be encountered during their Introductory Pharmacy Practice Experiences.

PHR 5603: Sterile Dosages Lab

Students will be familiarized with the organization and administration of an admixture program, requirements for clean room setup, equipment and techniques used in safely and accurately preparing sterile preparations, preparation of compounded sterile preparations, regulations governing preparation, distribution and storage of compounded sterile products, reviewing and clarifying physician orders for parenteral products, calculation of dosages of parenteral medications, and administration of different types of parenteral products. Students will practice in the laboratory the techniques related to the compounding of sterile dosage forms, interpreting prescriber orders, and documenting communication with other health professionals as needed to safely provide and manage sterile dosage forms. Students will be required to demonstrate competency in safe preparation of sterile dosage forms including dosage calculation, correct aseptic technique, quality assurance methods, and adherence to all relevant state and national standards or regulations.

PHR 5604: Patient Care Lab

This course focuses on the role of the pharmacist in providing safe and effective medication use to patients. It will integrate topics taught throughout the first professional year and concentrate on communication, quality assurance, drug distribution, and OTC product recommendation.

PHR 5605: Introduction to Pharmacology/Medicinal Chemistry

Introduction to Pharmacology/Medicinal Chemistry is designed to coordinate with the Pharmacotherapeutics sequence and provides the chemical and pharmacological basics for Pharmacotherapeutics course. This course furnishes the introduction to molecular, cellular, and physiological basis of drug action, the influence of chemical and physical properties in structure-activity relationships, drug chemistry, and mechanism of drug action, drug metabolism, drug interactions, toxicity profiles, and pharmacokinetics.

PHR 5606: Self Care II

This course will offer an overview of conditions and products that patients use in self-care treatment. The course will focus on the pharmacotherapy and the role of the pharmacist in disease state management related to self-care (using nonprescription and herbal therapy). Emphasis will be placed on the integration of pathophysiology, pharmacology, and therapeutics to devise appropriate pharmacy care plans. These plans will include rationale for drug use, selection and dosing regimens, expected outcomes of drug therapy, key monitoring parameters, clinically important drug-drug or drug-disease

interactions, counseling, and compliance issues. This course will also help to introduce students to clinical scenarios likely to be encountered during their Introductory Pharmacy Practice Experiences.

PHR 5008, PHR 5205, PHR 5406, and PHR 5601: Introductory Pharmacy Practice Experience (IPPE) Community

Community Introductory Pharmacy Practice Experiences are a four course sequence requiring a minimum of 160 contact hours, divided and completed by quarter; 40 hours during the summer quarter, 45 hours during the fall and winter quarters and 30 hours during the spring quarter. These courses introduce the student to the philosophy, socialization, and practice of the profession of pharmacy through a longitudinal experience in a community pharmacy practice environment. The student will practice the technical skills necessary to be a successful pharmacist while exploring the concepts of professionalism and shared accountabilities for health care outcomes.

PHR 5600: IPPE Hospital

Institutional Introductory Pharmacy Practice Experience is an experience requiring a minimum of 160 contact hours. This course re-enforces the student's awareness of the philosophy, socialization, and practice of the profession of pharmacy through an institutional pharmacy practice environment. The student will practice the technical skills necessary to be a successful pharmacist while exploring the concepts of professionalism and shared accountabilities for health care outcomes.

PHR 5207, 5607, 6206, 6607

This course is designed to parallel and complement a PharmD Candidate's learning throughout the first and second years of their didactic education. This course includes components from various Offices within the COPHS as well as program specific requirements. The overall design of this course is done as such to ensure that upon embarking on clinical experiences, the learner possesses all necessary knowledge, skills, attitudes, and professionalism needed to be successful. This course is pass/fail and is 0 credit hours, but all four courses are required to be passed to meet program progression requirements. Students must pass the full course sequence as a mandatory academic requirement for graduation.

SECOND PROFESSIONAL YEAR

PHR 6001: Pharmacotherapeutics I

This course focuses on the pathophysiology and pharmacotherapy of disease states. Emphasis will be placed on the integration of knowledge and skills gained from previous courses with pathophysiology and therapeutics to devise appropriate pharmacy care plans.

PHR 6002: Patient Care Lab

This course focuses on applying the didactic knowledge and skills learned throughout the pharmacy curriculum to simulated patient cases. Emphasis will be placed on the integration of pathophysiology, pharmacology, and therapeutics knowledge as well as physical assessment and point-of-care device skills via working through modules. In these modules, students will practice medication reconciliation, SOAP note/care plan development, patient presentation, drug information, and patient counseling skills.

The importance of developing a rationale to support all recommendations will also be a focus of this course.

PHR 6003: Biopharmaceutics and Pharmacokinetics I

This is an integrated course between basic sciences and clinical sciences. It consists of principles of how drugs perform in the human body and how the physiological system affects the drugs as they relate to absorption, distribution, metabolism, and excretion. Clinical Pharmacokinetics will build on these concepts to describe how to design a safe and effective drug regimen to patients based on their physiological conditions and disease states and how to monitor therapy regimen for adjustment if needed.

PHR 6004: Pathophysiology

This course is an introduction to the basic concepts of pathophysiology and requires a solid background of anatomy and physiology. The course focuses in understanding the pathophysiological mechanisms that lead to changes and alterations in human physiologic function and human responses. The students will learn how pathophysiological processes affect manifestation and progression of a disease state within the body, including the resulting primary and secondary effects. Both in-class lectures and examinations will introduce application of knowledge to novel clinical scenarios.

PHR 6005: Pharmacology/Medicinal Chemistry I

This course is designed to coordinate with the Pharmacotherapeutics sequence and provides the chemical and pharmacological basics for the Pharmacotherapeutics courses. This course furnishes the details of molecular, cellular, and physiologic basis of drug action, along with the influence of chemical and physical properties of drugs in structure-activity relationships, drug chemistry, mechanism of drug action, drug metabolism, drug interactions, toxicity profiles, and pharmacokinetics.

PHR 6006: Literature Evaluation and Application

This course will focus on landmark clinical trials that have influenced the way medications are used in clinical practice. Students will learn to critically evaluate these trials and to identify consistencies or inconsistencies with the currently established therapeutic guidelines.

PHR 6200: Pharmacy Practice Management

Pharmacy Practice Management is a required course in the curriculum leading to the degree of Doctor of Pharmacy. It is the goal of this course to develop the necessary foundation for the management of activities related to practice in any setting. These activities encompass but are not limited to human resource management (personnel relations, acquiring, supervision, development, and retention of staff), financial management and control, activities related to purchasing and inventory control, patient-pharmacist-prescriber relationships, ethical promotion of and reimbursement for medication therapy management activities as well as general business operational activities. It is beyond the scope of this course to make the student a management expert since expertise comes with experience. The course is designed to provide the student with a fundamental knowledge of concepts and principles that he/she can employ to effectively meet the challenges of a modern pharmacy practice.

PHR 6202: Patient Care Lab

This course focuses on applying the didactic knowledge and skills learned throughout the pharmacy curriculum to simulated patient cases. Emphasis will be placed on the integration of pathophysiology, pharmacology, and therapeutics knowledge, as well as physical assessment and point-of-care device skills via working through modules. In these modules, students will practice medication reconciliation, SOAP note/care plan development, patient presentation, drug information, and patient counseling skills. The importance of developing a rationale to support all recommendations will also be a focus of this course.

PHR 6203: Biopharmaceutics and Pharmacokinetics II

This course will build on Biopharmaceutics and Pharmacokinetics I and will focus on the clinical concepts in the application of foundational pharmacokinetics to pharmacotherapeutic situation. The goal of this course is to use pharmacokinetic principles in the evaluation of dosing and monitoring of medications in specific situations. Clinical pharmacokinetics of selected drugs which are routinely monitored will be discussed to assist the student in understanding of how to design a safe and effective dose regimen for patients based on medication and patient specific factors.

PHR 6204: Pharmacotherapeutics II

This course focuses on the pathophysiology and pharmacotherapy of disease states.
Emphasis will be placed on the integration of knowledge and skills gained from previous courses with pathophysiology and therapeutics to devise appropriate pharmacy care plans.

PHR 6205: Pharmacology/Medicinal Chemistry II

This course is designed to coordinate with the Pharmacotherapeutics sequence and provides the chemical and pharmacological basics for the Pharmacotherapeutics courses. This course furnishes the details of molecular, cellular, and physiologic basis of drug action, along with the influence of chemical and physical properties of drugs in structure-activity relationships, drug chemistry, mechanism of drug action, drug metabolism, drug interactions, toxicity profiles, and pharmacokinetics.

PHR 6400: Clinical Nutrition

Students will learn the basic principles of enteral and parenteral nutrition. Students will also learn how to write/adjust a parenteral/enteral nutrition formula adapted to patients' disease states. In addition, students will learn how to monitor the effects of nutrition on patients.

PHR 6401: Pharmacology/Medicinal Chemistry III

This course is designed to coordinate with the Pharmacotherapeutics sequence and provides the chemical and pharmacological basics for the Pharmacotherapeutics courses. This course furnishes the details of molecular, cellular, and physiological basis of drug action, along with the influence of chemical and physical properties of drugs in structure-activity relationships, drug chemistry, mechanism of drug action, drug metabolism, drug interactions, toxicity profiles, and pharmacokinetics.

PHR 6402: Pharmacotherapeutics III

This course focuses on the pathophysiology and pharmacotherapy of disease states. Emphasis will be placed on the integration of knowledge and skills gained from previous courses with pathophysiology and therapeutics to devise appropriate pharmacy care plans.

Updated 5 22 2020

PHR 6403: Patient Care Lab
This course focuses on applying the didactic knowledge and skills learned throughout the pharmacy curriculum to simulated patient cases. Emphasis will be placed on the integration of pathophysiology, pharmacology, and therapeutics knowledge, as well as physical assessment and point-of-care device skills via working through modules. In these modules, students will practice medication reconciliation, SOAP note/care plan development, patient presentation, drug information, and patient counseling skills. The importance of developing a rationale to support all recommendations will also be a focus of this course.

PHR 6404: Pharmacogenomics: Personalized Medicine

In the near future, personalized medicine will revolutionize the field of pharmacy by offering effective drug therapies that are guided by the genetic variants of individual patients. In our pharmacogenomics course, you will learn to understand how human genetics and genomics can be used to provide optimized drug therapy and patient care. Learning about this emerging field will enable you to better understand and manage new genomics-based diagnostic tools and make best treatment choices. You will spend time discussing societal and ethical implications of genetic testing and the resultant individualization of drug therapy, explain basic principles of human genetics and heredity and more. While pharmacogenomics has a modest impact on daily practice at this time, principles covered in this course will likely soon become a regular part of clinical care.

PHR 6600: Pharmacoeconomics and Outcomes

Students are introduced to the principles and tools of pharmacoeconomics and outcome assessments that are commonly used to study the impact of pharmaceutical care services on the health and health care of a patient or community.

PHR 6601: Pharmacotherapeutics IV
This course focuses on the pathophysiology and pharmacotherapy of disease states. Emphasis will be placed on the integration of knowledge and skills gained from previous courses with pathophysiology and therapeutics to devise appropriate pharmacy care plans.

PHR 6602: Pharmacology/Medicinal Chemistry IV
This course is designed to coordinate with the Pharmacotherapeutics sequence and provides the chemical and pharmacological basics for the Pharmacotherapeutics courses. This course furnishes the details of molecular, cellular, and physiological basis of drug action, along with the influence of chemical and physical properties of drugs in structure-activity relationships, drug chemistry, mechanism of drug action, drug metabolism, drug interactions, toxicity profiles, and pharmacokinetics.

PHR 6603: Patient Care Lab

This course focuses on applying the didactic knowledge and skills learned throughout the pharmacy curriculum to simulated patient cases. Emphasis will be placed on the integration of pathophysiology, pharmacology, and therapeutics knowledge, as well as physical assessment and point-of-care device skills via working through modules. In these modules, students will practice medication reconciliation, SOAP note/care plan development, patient presentation, drug information, and patient counseling skills.

The importance of developing a rationale to support all recommendations will also be a focus of this course.

PHR 6605: Clinical Application of Pharmacokinetics Lab
This course introduces hands-on experience in solving problems relevant to clinical pharmacokinetic services in the hospital or other healthcare setting, applying the concepts learned in Basic Biopharmaceutics and Pharmacokinetics I and II. Emphasis will be on dosing drugs requiring serum concentration monitoring for individual patients.

PHR 6606: Professional Seminar Course

This course will provide students information and review of knowledge and skills necessary for Advanced Pharmacy Practice Experiences.

THIRD PROFESSIONAL YEAR

PHR 7000, 7001, 7200, 7201, 7400, 7401, 7600: Advanced Pharmacy Practice Experiences (APPE)

The students will go through seven experiential education experiences. The experiences are balanced between three areas; including community/ambulatory care, hospital/health system, and elective experiences. Required rotations will emphasize patient care, systems management, and medication distribution within an interprofessional team. This will be the time for students to integrate and apply their knowledge to real patients' situations. Elective APPE are structured to allow students to explore specific areas of practice, furthering the breadth and the depth of experiences needed to enhance professional growth.

PHR 7601: Research Project and NAPLEX/MPJE Preparation
This course is designed to expand students' knowledge and practice skills by assuring core elements are completed during the P3 year. Students will have the ability to evaluate and synthesize pertinent literature and effectively communicate a pharmacotherapy-related topic in a professional manner. This course is also intended to help prepare the student for the NAPLEX and MPJE. Course is pass/fail. Students must pass the course as a mandatory academic requirement for graduation.

PROFESSIONAL ELECTIVES

PHR 6800: Addiction and Substances of Abuse

This course is designed to provide students with an understanding of the pathophysiology associated with addiction, an overview of substances of abuse including their effects on the nervous system and other organ systems as well as management of acute intoxication and/or withdrawal from the substance. Additionally, students will be exposed to nonpharmacological approaches in addiction management and are expected to apply knowledge gained during the course to contribute to educational and outreach efforts in the community. This is an elective course conducted primarily in a team-based learning format. Learning and assessments may be conducted through video tutorials, panels, reading assignments, and team projects/discussions to review and apply information. The course requires active participation by all students enrolled in the course.

PHR 6801: Advanced Drug Delivery

This course provides an opportunity to explore the basic principles and technology of advanced drug delivery systems and devices for controlled, sustained, and targeted delivery of drugs. This will include a systematic study of solid oral modified- release dosage forms such as coated beads, granules, microencapsulated drug, osmotic pump, repeat action tablets, transdermal, iontophoretic, intranasal and brain-targeted, ophthalmic, and nanotechnology-based products.

PHR 6802: Advanced Ambulatory Care

This will be a competency-based course that focuses on the role of the pharmacist in disease state management in the ambulatory care setting. Additionally, this course will reinforce concepts taught in Therapeutics. Learning and assessments may be conducted through video tutorials, reading assignments, and/or team projects/ discussions to review and apply information. The course requires active participation by all students enrolled in the course.

PHR 6803: Advanced Self Care

This course focuses on the role of durable medical equipment, medical supplies, and other self-care products in the medical management of patients in the outpatient community setting.

PHR 6804: Aromatherapy Science

This elective course is designed to cover commonly used essential oils and their therapeutic uses, details of toxicity, bioactivity, contraindications, and clinical studies. Lecture topics include historical background, aromatherapy practice, chemistry of essential oils, bioactivity of essential oils, science of smell, safety issues, and clinical studies.

PHR 6805: Clinical Ethics

This course explores the background, history, and components of ethical decision-making in the professional medical environment. There is additional focus on the ethics involved in human subjects research (both pre-clinical and clinical) and a pharmacist's dispensing rights and responsibilities.

PHR 6806: Drug Induced Disease

This course will cover the mechanism of drug-induced diseases that affect a variety of organ systems. Students will examine offending drugs involved in these adverse drug reactions and examine the prevention, detection, and the most appropriate management of drug-induced diseases. Content in this elective class will integrate and build upon the clinical knowledge learned in pharmacotherapeutic courses and labs. This class offers the opportunity to practice assessment techniques and clinical reasoning skills to approach drug-induced disease.

PHR 6807: Geriatrics

Students will learn the principles of patient-centered care in the geriatric population as well as the role and responsibilities of the senior care pharmacist.

PHR 6808: Heart Failure

This elective is an interactive and activity-based course. Using heart failure treatment as the patient care topic, students will learn the pharmacist's role as a member of the health care team. In class, students will learn how to read journal articles and provide patient education. Students will develop appropriate treatment recommendations using a team approach to care for patients with heart failure.

PHR 6809: Integrative Therapeutics

This elective course examines the role of nutritional supplements pertaining to health and wellness. Emphasis will be placed on scientific evidence in the support of supplementations, and students will gain knowledge on what products are considered both safe and effective.

PHR 6810: Introduction to Residency

This elective course is designed for students that are interested in pursuing a residency. Students will be educated on all residency opportunities, the residency selection process, and things to consider when selecting residency programs. Also, the students will develop curriculum vitae and learn important interviewing techniques to use during a residency interview.

PHR 6811: Landmark Trials I

This course will focus on landmark clinical trials that have influenced the way medications are used in clinical practice. Students will learn to critically evaluate these trials and to identify consistencies or inconsistencies with the currently established therapeutic guidelines.

PHR 6812: Landmark Trials II

This course will focus on landmark clinical trials that have influenced the way medications are used in clinical practice. Students will learn to critically evaluate these trials and to identify consistencies or inconsistencies with the currently established therapeutic guidelines.

PHR 6813: Leadership

This course is designed to help students think about what it means to be a leader. During the course, students will analyze their personality trait and leadership style and how to work with those who have different traits than their own. We will utilize popular leadership books as a starting point for discussion on leadership development and issues that students will face.

PHR 6814: Learn to Teach

This course is an elective offering that is intended to give pharmacy students a general overview of the organizational structure of academia, as well introduce possible career opportunities in academia. This course will also teach students how to utilize skills such as active learning, visual aids, and vocal variety in order to become effective communicators in the classroom setting. Students will be given opportunities during class to enhance assessment, verbal, and written skills through various in-class assignments.

PHR 6815: Managed Care

This elective course will provide an overview of managed care pharmacy and an understanding of how managed care impacts the entire healthcare system. Topics will range from pharmacy benefits design to emerging markets in specialty pharmaceuticals. Students will leave this course with a knowledge of managed care pharmacy that can prepare them for experiential education and career opportunities in a variety of managed care practice settings.

PHR 6816: Medical Spanish

This course is designed to develop the Spanish-speaking skills of the non-Spanish speaking healthcare professional. It will build on skills of basic Spanish vocabulary and pronunciation and will develop basic conversational skills as well as pharmacy-specific and medical terms, phrases, and counseling points. Emphasis will be placed on developing sufficient skills to provide adequate pharmaceutical care to Spanish-speaking patients that speak little or no English. The course will also provide key phrases and general questions to use when counseling or assessing the patient. The course will also provide insight into Hispanic/Latin culture and address how to handle and understand cultural differences in health beliefs and practices.

PHR 6817: Mental Health

This course provides the student with an introduction to the mental health system and various psychiatric disease states and treatments. This is a general introduction/review on the common psychiatric disorders, more in-depth pharmacologic/nonpharmacologic treatment options, and includes unique subject matter. The mental health elective will utilize the experiences of faculty and guest lecturers that practice in the field of psychiatry.

PHR 6818: NanoMedicine

This course will focus on developing students' understanding of the unique properties of nanomaterials used in nanomedicines, their fabrication and characterization, and nanodrug delivery systems for the treatment of various diseases. Emphasis will be placed on FDA approved nanomedicines, their specific uses and advantages compared to conventional counterparts, nanotechnology-enabled diagnostic and contrast agents, and the simultaneous diagnostic/treatment modalities. An introduction to theranostics and personalized medicine will also be included.

PHR 6819: Palliative Care

Palliative care refers to specialized medical **care** for people with serious illnesses. It is focused on providing patients with relief from the symptoms, pain and stress of a serious illness-whatever the prognosis. Hospice care is care for people with terminal illnesses or conditions and who have an anticipated life expectancy of six months, or less. This course will focus on the care of patients receiving palliative or hospice care. Case examples will be used to explore common treatments used in these populations. Students will examine care from a holistic perspective considering how the pharmacist serves as part of an interprofessional team providing pharmacologic therapy as well as psycho-social, spiritual, and ethical care. This course will examine the progression from normal healthy status through serious illness, and eventually to the process of dying. Few new therapies will be discussed. Instead, the course will focus on HOW the medications are used in this environment including the importance of deprescribing of unnecessary medications.

PHR 6820: Pediatrics

This course is an elective offering that is intended to introduce students to pediatric topics encountered in a “general medicine” setting including ambulatory and inpatient hospital settings. The focus of the class will be practical implementation of general medicine principles directed at a pharmacist’s point of view. Students will gain comfort with basic pediatric pharmacy principles and knowledge of pediatric pharmacy specific resources. The format of the class will mostly be an open forum discussion.

PHR 6821: Veterinary Medicine

To review the role of the pharmacist in dispensing medications and making treatment recommendations for animals.

PHR 6822: Wilderness Medicine

This course introduces a quick and decisive approach in the management of common outdoor medical emergencies otherwise known as "Wilderness Medicine".

PHR 6823: Women’s Health

This course will include discussions on several topics regarding health issues and conditions. Topics will complement those previously learned in therapeutics, set the learners up for success in future therapeutics lectures, and/or include guest speakers that are experts in Women’s Health Topics. Class time may be lecture, discussion, or application through cases and a final project.

PHR 6824: Xenobiotic Toxicology

This course emphasizes adverse health effects caused by environmental toxicants and xenobiotics (foreign agents). The contribution of environmental toxicants to the development and progression of diseases will be discussed. This course provides information on traditional topics of toxicology as well as modern research methods in toxicology.

PHR 6825: Independent Study

The individual topic will be determined by course faculty.

PHR 6835: Advances in Ambulatory Care

This course provides students with advanced skills and knowledge in ambulatory care.

PHR 6836: Advanced Compounding

This course provides students with advanced skills training in compounding. Emphasis will be on the compounding process and appropriate use of the USP for non-sterile compounded preparations.

PHR 6837: Advocacy

The Advocacy elective will provide an introduction to political advocacy and the legislative process. Throughout the quarter guests will discuss their role in politics and provide strategies to implement advocacy initiatives. Students will engage in hands-on professional and patient advocacy activities. They will also utilize the skills developed within the elective to encourage fellow classmates to become politically engaged. Role playing scenarios will be included to demonstrate the multitude of participants within the legislative process and illuminate the crucial role that student pharmacists can play. Additionally, outside of class activities will be a key component to the course and may include, but not limited to; a tour of the State Capitol, attendance at professional organization board meetings, and attendance during invited guest speakers.

PHR 6838: Critical Care

This course will focus on critical care disease states and provide an overview of pharmacy practice in the intensive care unit. Students will learn how to review and apply critical care evidence-based literature and guidelines to patient cases.

PHR 6839: Death and Dying

This course provides students with advanced skills and knowledge the area of death and dying.

PHR 6840: Landmark Trials III

This course will focus on landmark clinical trials that have influenced the way medications are used in clinical practice. Students will learn to critically evaluate these trials and to identify consistencies or inconsistencies with the currently established therapeutic guidelines.

PHR 6841: Sensory Physiology

This elective course will allow students to learn in more detail the structure and function of the sensory systems and how specialized receptors allow the sensory systems to detect specific types of stimuli such as pressure, light, or airborne chemicals. In addition, laboratory exercises will be used when appropriate to reinforce the didactic information.

PHR 6844: Cultural Competency

This course is designed to build on concepts from previous courses that will aid the student pharmacist in reflecting on and building his/her own level of cultural competency or awareness. Information discussed will include the basics of cultural competency, refugee health, the use of interpreters, and a detailed look into a variety of sociocultural groups, with the intent of preparing the students to provide care for other cultures.