FEIK SCHOOL OF PHARMACY

Professional Curriculum Course Descriptions

FIRST PROFESSIONAL YEAR (P1)

PHAR 3122 Pharmaceutics II – 1 credit
This course introduces dosage form design and preparation, both from manufacturing and compounding perspectives. Primary topics include liquid dosage form preparation and evaluation, including common vehicles and excipients.

PHAR 3123 Pharmaceutics III – 1 credit
This course applies fundamental biological and physicochemical principles important for the formulation, preparation, stability, and performance of sterile dosage forms and biopharmaceuticals. Primary topics will include the characterization and formulation of drug products derived from biological molecules, compounding of sterile dosage forms and an introduction to aseptic technique.

PHAR 3125 Pharmaceutics Lab I – 1 credit
The student pharmacist will develop basic knowledge and skill in the design and preparation of safe and effective liquid dosage forms for topical and oral routes of administration through relevant examples drawn from basic science and contemporary professional practice.

PHAR 3127 Pharmaceutics Lab II – 1 credit
This laboratory based course is designed to develop basic knowledge and skills in the design and preparation of safe and effective dosage forms for various routes of administration through relevant examples from basic science and contemporary professional practice. A significant portion of the course will be dedicated to an introduction to sterile compounding.

PHAR 3150 Ethics and Life Issues – 1 credit
Ethics and Life Issues is an introductory study of current and relevant topics impacting health care with attention to the development of a framework for ethical decision-making.

PHAR 3157 Drug Information – 1 credit
This course introduces students to medical and drug information sources for consumers and professionals. Individual and group activities will provide students with experience in determining the most appropriate and up-to-date information sources for the education of patients and health care professionals. Emphasis will be placed on writing skills, critical thinking, and problem solving skills necessary to formulate and answer drug information questions.

PHAR 3170 Professional Applied Development Skills for Transfers (PADS) – 1 credit
The course is designed to introduce the doctor of pharmacy transfer student to the profession of pharmacy and condenses the Professional (Applied) Development Skills series. This course introduces the history and development of pharmacy and pharmacy education in the United States, the concept of pharmaceutical care, and the role of the pharmacist. This course further provides the student with the basis of medical terminology and abbreviations.

PHAR 3221 Pharmaceutics I – 2 credits
This course builds on general and organic chemistry to identify and apply physicochemical principles of drug molecules important for the formulation, preparation, stability, and performance of pharmaceutical dosage forms. Primary topics include the application of solubility principles, acid-base chemistry and chemical kinetics to drug molecules.
PHAR 3224 Pharmaceutics IV – 2 credits
This is the last of the Pharmaceutics series. This course provides an in depth study of the preparation and evaluation of several types of dosage forms as well as an introduction to some novel and advanced dosage forms. Primary topics will include the application of physiochemical and biopharmaceutical principles to the formulation, manufacture, and stability of solid dosage forms and transdermal dosage forms.

PHAR 3226 Pharmacy Calculations – 2 credits
This course introduces learning and self-assessment strategies applicable to pharmacy professionals using the mathematics encountered in the practice of pharmacy to ensure patient safety. Pharmacy math focuses on getting the correct drug dose to each patient in a way that is documented, clearly organized, and formatted for review. Topics include reading and processing prescription orders, unit systems and conversions, the calculation of doses and other calculations involved in pharmacy practice. Course activities will model ways of working in and evaluating the effectiveness of a health care team, including assessment of self and peer contributions to team success in solving patient problems and reinforcing positive professional collaboration behaviors.

PHAR 3230 Pharmacy Communications – 2 credits
This is the first in a series of courses that will focus on the application of pharmaceutical care principles, pharmaceutical knowledge and professional techniques to solve patient/medication related issues. Communication techniques in the clinical setting will be explored and practiced through off-site experiences, role-playing, writing, presenting and working in groups. This course will introduce the patient medical record. The student will be exposed to the concepts of pharmacy care, professional attitudes and cultural competence.

PHAR 3235 Introduction to Pharmacy Care – 2 credits
This is the second in a series of courses that will focus on the application of pharmaceutical care principles, pharmaceutical knowledge and professional techniques to solve patient/medication related issues. Patient counseling will be introduced. This course will emphasize professional writing, computer skills, presentations, critical thinking skills and professionalism.

PHAR 3316 Biochemistry – 3 credits
This is a comprehensive course on biochemistry and molecular biology concepts. This course will focus on the structure, chemistry and function of macromolecules and their building blocks, i.e., amino acids, carbohydrates, nucleotides and fatty acids. Major metabolic and catabolic pathways will be discussed in relation to drug action. Enzyme kinetics and regulation, and bioenergetics will be presented.

PHAR 3353 Pharmacy and the Health Care System – 3 credits
This course describes the US Health Care system and the role of the pharmacist within this dynamic system. This course is an overview of the social, economic, and political environments in which health care currently is being delivered to the American public and the impact on the practice of pharmacy.

PHAR 3417 Medical Microbiology and Immunology – 4 credits
This course provides a comprehensive study of the field of medical microbiology and the immune system, and will include a survey of infectious microbes and the clinical consequences of infection. Topics will include basic microbial nomenclature, microbial structure, virulence factors and mechanisms of tissue damage. The immunological portion of the course will focus on the structure and function of the individual components of the immune system as well as the way in which the individual components work together to keep an individual healthy or when the immune system breaks down and is the cause of a medical condition. Additional attention will be given to the study of immune system manipulation in medicine. This course will place particular emphasis on those aspects that will later be important for drug therapy.

Updated Summer 2014 (2)
PHAR 3510  Anatomy & Physiology I – 5 credits
First semester of a two-semester course designed to emphasize basic physiological principles and regulatory processes involved in maintaining homeostasis within the human body. Content will focus on structure and function from the level of cells to whole body systems. Topics include the physiology and structure of membranes, cells, and tissues, and of the nervous, skeletal, muscular and cardiovascular systems. This course will be taught from an integrative point of view as many concepts will overlap among systems.

PHAR 3515  Anatomy & Physiology II – 5 credits
Second semester of a two-semester course designed to emphasize basic physiological principles and regulatory processes involved in maintaining homeostasis within the human body. Content will focus on structure and function from the level of cells to whole body systems. Topics include the physiology and structure of the renal, respiratory, acid-base, digestive, endocrine, and reproductive systems. This course will be taught from an integrative point of view as many concepts will overlap among systems.

PHAR 5274  FSOP Immunization Training – 2 credits
This course will provide students with the necessary skills to identify a patient’s need for immunizations as well as provide the immunizations and education. In addition, the student will be able to administer cardiac life support in case of an emergency.

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SECONd PROFESSIONAL YEAR (P2)

PHAR 4135  Dispensing Laboratory – 1 credit
This is the fourth in a series of courses that will focus on the application of pharmaceutical care principles, pharmaceutical knowledge and professional techniques to solve patient/medication-related issues. The course includes use of knowledge, skills and techniques to design and conduct medication order execution and patient education in an outpatient and institutional setting.

PHAR 4152  Principles of Public Health for Pharmacists – 1 credit
This course will prepare students to identify public health issues and to identify populations at risk for a variety of diseases. In addition, this course will enable the student to critically evaluate current trends in the care of patient populations. Focusing on the role of the pharmacist, students will be able to identify the contribution of specific health care providers in the public health policy.

PHAR 4221  Basic Pharmacokinetics – 2 credits
Basic Pharmacokinetics is the study of drug absorption, metabolism, distribution and excretion subsequent to administration. Basic equations and their underlying assumptions will be examined and applied to enable the student to predict drug concentrations in the body, determine appropriate dosing intervals, and predict the elimination of drug from the body.

PHAR 4222  Clinical Pharmacokinetics – 2 credits
This course allows students to evaluate patient characteristics and apply pharmacokinetic principles when designing, monitoring and modifying therapeutic regimens to result in safe and effective pharmacotherapy.

PHAR 4230  Patient Assessment – 2 credits
This is the third in a series of courses that will focus on the application of pharmaceutical care principles, pharmaceutical knowledge and professional techniques to solve patient/medication related issues. The course includes patient assessment skills using history taking and physical assessment techniques, diagnostic tools, and clinical chemistry.
PHAR 4245  Pharmacotherapeutics IV – Renal Disorders and Electrolytes/Fluids – 2 credits
This is the fourth of twelve courses that are sequenced to run consecutively for four semesters. Pharmacotherapeutics will cover pathophysiology, medicinal chemistry, pharmacology and therapy of renal diseases and electrolyte and fluid management in a team-taught, multidisciplinary approach. The course will cover basic scientific principles and disease state management based on organ systems. The students will have the opportunity to learn, apply and integrate knowledge from the four disciplines.

PHAR 4247  Pharmacotherapeutics VI – Pulmonary Disorders – 2 credits
This is the sixth of twelve courses that are sequenced to run consecutively for four semesters. Pharmacotherapeutics will cover pathophysiology, medicinal chemistry, pharmacology and therapy of pulmonary diseases in a team-taught, multidisciplinary approach. The course will cover basic scientific principles and disease state management based on organ systems. The students will have the opportunity to learn, apply and integrate knowledge from the four disciplines.

PHAR 4255  Pharmacy Law – 2 credits
This course will provide a basis for the legal practice of pharmacy and begin the student’s preparation for the Multistate Pharmacy Jurisprudence Licensing Examination (MPJE). The course will explore the details of both federal and state pharmacy law.

PHAR 4340  Introduction to Clinical Reasoning – 3 credits
This introductory course will teach clinical reasoning skills that serve as the foundation for the pharmacotherapeutic sequence of courses. This course will use a team-taught approach to develop a process for clinical problem-solving. The course will incorporate faculty from various areas of practice to emphasize the applicability of this clinical thought process throughout pharmacy practice. Students will have the opportunity to analyze information.

PHAR 4342  Pharmacotherapeutics I – Introduction to Medicinal Chemistry – 3 credits
This is the first of twelve courses that are sequenced to run consecutively for four semesters. The Introduction to the Medicinal Chemistry module will present the basic principles of structure-activity relationships and biochemical pharmacology with special emphasis placed on the physicochemical properties of functional groups, acid-base chemistry, the impact of physicochemical properties on the pharmacokinetic and the pharmacodynamic properties of drug molecules and drug metabolism.

PHAR 4344  Pharmacotherapeutics II – Introduction to Pharmacology – 3 credits
This is the second of twelve courses that are sequenced to run consecutively for four semesters. In this module, the students will learn about basic pharmacology including receptor theory, transduction systems, receptor systems, homeostasis toxicology, adverse drug reactions, drug-drug interactions, pharmacogenomics and pharmacological considerations for special populations.

PHAR 4346  Pharmacotherapeutics III – DEENT Disorders (Derm., Eye, Ear, Nose & Throat) – 3 credits
This is the third of twelve courses that are sequenced to run consecutively for four semesters. Pharmacotherapeutics will cover pathophysiology, medicinal chemistry, pharmacology and therapy of diseases of the skin, eyes and ears, cough, cold, flu and allergy in a team-taught, multidisciplinary approach. The course will cover basic scientific principles and disease state management based on organ systems. The students will have the opportunity to learn, apply and integrate knowledge from the four disciplines.

PHAR 4351  Pharmacy Management and Leadership – 3 credits
This course is designed to build students' practice management abilities. This course familiarizes pharmacy students with the basic principles, terms, and functions of pharmacy management that must be undertaken in every pharmacy practice setting.
PHAR 4426 Pharmacokinetics – 4 credits
This course combines basic and clinical perspectives in the application of physiology, pharmaceutics, mathematics, and clinical assessment to explain the fate of drugs administered to individual patients. Basic formulas and their underlying assumptions will be examined and applied to enable the student to initiate, monitor and optimize drug regimens to achieve desired therapeutic outcomes.

PHAR 4543 Pharmacotherapeutics V – Cardiovascular Disorders – 5 credits
This is the fifth of twelve courses that are sequenced to run consecutively for four semesters. Pharmacotherapeutics will cover pathophysiology, medicinal chemistry, pharmacology and therapy of cardiovascular diseases in a team-taught, multidisciplinary approach. The course will cover basic scientific principles and disease state management based on organ systems. The students will have the opportunity to learn, apply and integrate knowledge from the four disciplines.

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<th>THIRD PROFESSIONAL YEAR (P3)</th>
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PHAR 5130 Applied Pharmacy Care – 1 credit
This is the fifth in a series of courses that will focus on the application of pharmaceutical care principles, pharmaceutical knowledge and professional techniques to solve patient/medication-related issues. This course includes the use of knowledge and clinical skills to evaluate and assess patient cases in order to design pharmaceutical care plans using basic therapeutic principles and evidence-based medicine.

PHAR 5135 Advanced Pharmacy Care – 1 credit
This is the sixth in a series of courses that will focus on the application of pharmaceutical care principles, pharmaceutical knowledge and professional techniques to solve patient/medication-related issues. Students will participate in Introductory Pharmacy Practice Experiences and will apply knowledge and skills obtained in the classroom and laboratory to a pharmacy setting under the supervision of a licensed pharmacist. The course includes use of knowledge, skills, and techniques to design medication regimens and understand disease management in outpatient and institutional settings.

PHAR 5146 Pharmacotherapeutics IX – Skeletal/Muscular Disorders – 1 credit
This is the ninth of twelve courses that are sequenced to run consecutively for four semesters. Pharmacotherapeutics will cover pathophysiology, medicinal chemistry, pharmacology and therapy of diseases of the gastrointestinal track in a team-taught, multidisciplinary approach. The course will cover basic scientific principles and disease state management based on organ systems. The students will have the opportunity to learn, apply and integrate knowledge from the four disciplines.

PHARM 5245 Pharmacotherapeutics XI - Gastrointestinal Disorders – 2 credits
This is the eleventh of twelve courses that are sequenced to run consecutively for four semesters. Pharmacotherapeutics XI will cover pathophysiology, medicinal chemistry, pharmacology and therapy of gastrointestinal diseases in a team-taught, multidisciplinary approach. The course will cover basic scientific principles and disease state management based on organ systems. The students will have the opportunity to learn, apply and integrate knowledge from the four disciplines.

PHAR 5250 Pharmacoeconomics, Quality and Safety – 2 credits
Students will apply the principles of cost-minimization analysis, cost-effectiveness analysis, cost-utility analysis, and cost-benefit analysis to real-world scenarios. Publications of pharmacoeconomics studies will be reviewed and critiqued. Health-related quality of life, decision analysis, and international comparisons will also be reviewed and evaluated. Emphasis will be placed upon cost-effective use of drugs and outcomes of therapy.
PHAR 5347  Pharmacotherapeutics XII – Neoplastic Disorders – 3 credits
This is the eleventh of twelve courses that are sequenced to run consecutively for four semesters. Pharmacotherapeutics will cover pathophysiology, medicinal chemistry, pharmacology and therapy of cancers in a team-taught, multidisciplinary approach. The course will cover basic scientific principles and disease state management based on organ systems. The students will have the opportunity to learn, apply and integrate knowledge from the four disciplines.

PHAR 5358  Biostatistics and Literature Evaluation – 3 credits
This course will teach students how to critically evaluate the biomedical literature. Students will learn the appropriate biostatistical methods used in data analysis for different trial designs. During the course students will use different methods to analyze and present data. At the conclusion of the course, students will critique the biomedical literature and present the clinical relevance of the results.

PHAR 5443  Pharmacotherapeutics X – Psychiatric and Neurological Disorders – 4 credits
This is the tenth of twelve courses that are sequenced to run consecutively for four semesters. Pharmacotherapeutics will cover pathophysiology, medicinal chemistry, pharmacology and therapy of central nervous system diseases including headache, seizure, neurobehavioral developmental, movement, mood, and mental disorders as well as pathologies associated with drugs of in a team-taught, multidisciplinary approach. The course will cover basic scientific principles and disease state management based on organ systems. The students will have the opportunity to learn, apply and integrate knowledge from the four disciplines.

PHAR 5444  Pharmacotherapeutics VIII – Endocrine Disorders – 4 credits
This is the eighth of twelve courses that are sequenced to run consecutively for four semesters. Pharmacotherapeutics will cover pathophysiology, medicinal chemistry, pharmacology and therapy of endocrine diseases including diabetes, dysthyroidism, reproductive disorders and hormonal imbalances in a team-taught, multidisciplinary approach. The course will cover basic scientific principles and disease state management based on organ systems. The students will have the opportunity to learn, apply and integrate knowledge from the four disciplines.

PHAR 5542  Pharmacotherapeutics VII – Infectious Diseases – 5 credits
This is the seventh of twelve courses that are sequenced to run consecutively for four semesters. Pharmacotherapeutics will cover pathophysiology, medicinal chemistry, pharmacology and therapy of infectious diseases in a team-taught, multidisciplinary approach. The course will cover basic scientific principles and disease state management based on organ systems. The students will have the opportunity to learn, apply and integrate knowledge from the four disciplines.

**Elective Courses**

PHAR 5166  iThink – 1 credit
This course will provide students with the opportunity use various electronic drug information applications in order to make rational decisions concerning drug therapy.

PHAR 5170  Applied Biblical Studies: Pentateuch – 1 credit
Applied Biblical Studies I (Pentateuch) will examine the first five books of the Bible (Genesis, Exodus, Leviticus, Numbers, Deuteronomy). The student will have the opportunity to learn and apply biblical teachings to the student’s personal life and the practice of pharmacy. Applied Biblical Studies is an elective course for students in the Doctor of Pharmacy degree program. The course may not be repeated for additional credit.

PHAR 5171  PCCA Compounding – 1 credits
This elective course introduces students to the basics of contemporary pharmacy compounding.
PHAR 5172  Introduction to General Toxicology – 1 credit
This course will introduce the field of toxicology to pharmacy students. This introduction will include the presentation of the principals of toxicology, discussions of potential toxins and toxicants, an introduction to where information on toxins and toxicants can be found, and the exploration of possible careers in the field.

PHAR 5173  Review of New Drugs – 1 credit
This course will discuss resources to identify new drugs, recently approved drugs, and drugs in development. Drug indications, adverse effects, dosage, products, comparable drugs, advantages, disadvantages, and place in therapy will be discussed for each new drug.

PHAR 5174  Introduction to Clinical Toxicology – 1 credit
This course will introduce pharmacy students to the field of clinical toxicology. The symptoms and mechanisms of toxicity, the use and mechanisms of available antidotes, and the outcomes of exposure to toxic levels of therapeutic agents and drugs of abuse and to common toxins and toxicants will be examined. The availability and use of clinical resources for identifying unknown toxicants and treating such exposures will be explored.

PHAR 5175: Alcohol and Drugs of Addiction – 1 credit
This is an introductory course outlining the physical, economic, social and legal issues associated with alcoholism and drugs of abuse.

PHAR 5178  Applied Biblical Studies: Gospels – 1 credit
Applied Biblical Studies II (Gospels) will examine the first four books of the New Testament (Matthew, Mark, Luke, John). The student will have the opportunity to learn and apply biblical teachings to the student’s personal life and the practice of pharmacy.

PHAR 5179  Self-Care and Nonprescription Medication – 1 credit
This course will focus on the application of self-care and proper use of over-the-counter medication in the outpatient setting. This course will build on the knowledge the students have attained on self-care and nonprescription medication, while teaching them the skills and techniques necessary to provide recommendations for nonprescription medication. It will provide an in-depth understanding of self-care and nonprescription medications through case-based learning and primary literature analysis.

PHAR 5180  Medical Missions – 1 credit
Medical Missions examines the philosophy, history, opportunities, and best practices of medical missions. The course is designed to prepare the student to participate in a medical missions trip.

PHAR 5181  Medical Missions Experience – 1 credit
Medical Missions Experience allows the student to apply the foundations of medical missions in a medical mission environment.

PHAR 5182  Tobacco Cessation – 1 credit
This course will provide information on tobacco cessation. Topics covered will include epidemiology of tobacco use, principles of nicotine addiction, pharmacologic and non-pharmacologic aids for tobacco cessation, and use of patient-centered counseling techniques. The goal of the course is to provide students with the knowledge and skills necessary to provide comprehensive tobacco cessation counseling to patients who use tobacco.

PHAR 5183  History of Pharmacy – 1 credit
This course introduces the student to the history of the profession of pharmacy, spanning from ancient to modern times. The student will learn about the development and evolution of the pharmacy profession and its profound effects on the advancement of medicine, human civilization and society.
PHAR 5185  Geriatric Pharmacotherapy and Perspectives in Aging – 1 credit
This course is an overview of common pharmacological, ethical and health-systems concerns related to aging. The goal is to develop evidence based clinical skills and decision-making processes relevant to geriatric care.

PHAR 5187  Pharmacist Role in Weight Management – 1 credit
This course will give the pharmacy student the opportunity to learn, apply and integrate knowledge about weight management to improve patient care. The students will use gained knowledge of the physiology, pharmacology and therapy of weight management into patient cases.

PHAR 5188  Veterinary Medicine – 1 credit
Veterinary Medicine is an introductory course that will provide pharmacy students with an overview of veterinary pharmacology and therapeutics. The course will provide instruction on the indications of veterinary and human labeled medications used in the treatment of animal diseases.

PHAR 5189  Prevention and Management of Drug-Induced Diseases – 1 credit
This elective course is designed to enhance students’ knowledge and skills in providing medication management with a focus on the prevention of drug-induced diseases and adverse drug reactions.

PHAR 5190  Natural Dietary Supplements – 1 credit
This course will provide information on the use of natural dietary supplements and possible dietary supplement-drug interactions. Topics covered will include pattern of dietary supplements use, mechanism of action, possible drug-drug interactions, and adverse drug reactions. The goal of the course is to provide broad knowledge of dietary supplements and possible dietary supplement-drug interactions. The student will learn counseling techniques for patients who use dietary supplement(s).

PHAR 5199  Directed Studies in Pharmacy Sciences – 1-3 credits
This course provides an opportunity for qualified pharmacy students to engage in specialized study or investigative work in pharmaceutical, social/administrative or clinical sciences with specific faculty.

PHAR 5271  Advanced Diabetes Management – 2 credits
This course will provide students with the necessary skills to develop a special practice focus on caring for patients with diabetes. The course will explore the details of both pharmacological and non-pharmacological treatment and development and progression of long-term complications.

PHAR 5272  Research Methods in Pharmaceutical Sciences – 2 credits
This course is designed to expose the student to an overview of several scientific research methods. The course will introduce literature search, hypothesis development and testing, experimental design and execution, and data analysis and interpretation.

PHAR 5273  Women’s Health Issues – 2 credits
This course will present an overview of the major health issues involved in providing healthcare to women of all ages.

PHAR 5276  Applied Landmark Studies in Cardiovascular Care – 2 credits
This two-hour elective course will include a review of primary Cardiovascular literature including statistics, validity bias, etc. Based on this review and discussion, students will be required to complete patient cases that have multiple appropriate treatment options. Students will then use their assessments of primary literature and the patient to convince their peers and faculty of their treatment recommendations. This course may be repeated for credit when studies vary.
PHAR 5280  Overview of Critical Care Disorders and Treatment – 2 credits
This course is designed to facilitate critical thinking of pharmacotherapeutics in acute critical care patients. Students will be exposed to the pathophysiology and intervention of acid-base disorders, infectious disease, and other emergent disorders.

PHAR 5281  Overview of Internal Medicine – 2 credits
This course will prepare students to care for hospitalized internal medicine patients, focusing on the pathophysiology and treatment of disease states common to patients admitted to general medical wards.

PHAR 5284  Advanced Compounding – 2 credits
This elective course will provide advanced training in the art, science and technology of pharmaceutical compounding.

PHAR 5285  Non-FSOP Immunization Training – 2 credits
This course may be taken at state or national meetings with advance approval. It will provide students with the necessary skills to identify a patient’s need for immunizations as well as provide the immunizations and education. In addition, the student will be able to administer cardiac life support in case of an emergency.

PHAR 5286  Health Leaders – 2 credits
This elective course requires students to develop and demonstrate an understanding of leadership in pharmacy advocacy, project management, and personal and professional leadership. The course will be taught primarily online, asynchronous, by faculty from UIW and UT schools of pharmacy.

PHAR 5378  An Interdisciplinary Approach to Palliative Care and End of Life Issues – 3 credits
In this elective course, students from a variety of disciplines examine palliative care and end of life issues from the perspective of a variety of healthcare practitioners, including nurses and pharmacists. The provision of physical, psychosocial, and spiritual care will be explored. The course integrates pathophysiology, pharmacology, and advanced physical examination principles to assess and manage symptoms in persons with progressive life-threatening illnesses according to evidence based standards of care. Ethics and legal issues will be explored in reference to palliative care and end of life issues. Didactic study will be augmented with experiential experience and clinically focused work using case study, discussion, and simulations.

PHAR 5386  Veterinary Compounding – 3 credits
This elective course trains the student in comprehensive veterinary pharmacotherapy and applications to compounding for veterinary patients.

**FOURTH PROFESSIONAL YEAR (P4)**

**SEMINARS:**

PHAR 6301  Pharmacotherapeutic Seminar – 3 credits
This course will use student-led patient presentations and question and answer sessions to integrate the pharmaceutical care knowledge and problem-solving skills gained in the didactic portion of the curricula with the knowledge gained during their Advanced Pharmacy Practice Experiences (APPEs).

**REQUIRED ADVANCED PHARMACY PRACTICE EXPERIENCES (APPEs):**

PHAR 6650  Community Pharmacy – 6 credits
The Community Care Advanced Pharmacy Practice Experience is one of seven Advanced Pharmacy Practice Experiences in the fourth professional year. The course is designed to further develop the student’s knowledge and understanding of pharmacy practice in a community care pharmacy setting under preceptor supervision.
PHAR 6652 Hospital or Health-System Pharmacy – 6 credits
The Hospital/Health-System Advanced Pharmacy Practice Experience is one of seven Advanced Pharmacy Practice Experiences in the fourth professional year. This course is designed to further develop the student’s knowledge and understanding of pharmacy practice in a hospital or health-system pharmacy under the supervision of a preceptor.

PHAR 6654 Ambulatory Care – 6 credits
The Ambulatory Care Advanced Pharmacy Practice Experience is one of seven Advanced Pharmacy Practice Experiences in the fourth professional year. The course is designed to further develop the student’s knowledge and understanding of pharmacy practice for chronically-ill patients in an ambulatory care pharmacy setting under the supervision of a preceptor.

PHAR 6656 Inpatient Acute Care/General Medicine – 6 credits
The Acute Care – General Medicine Advanced Pharmacy Practice Experience is one of seven Advanced Pharmacy Practice Experiences in the fourth professional year. The course is designed to further develop the student’s knowledge and understanding of pharmacy practice for general medicine patients in an acute care pharmacy setting under the supervision of a preceptor.

Patient Care Elective:

PHAR 6660 Patient Care Elective – 6 credits
The Patient Care Elective Advanced Pharmacy Practice Experiences are two or three of the seven Advanced Pharmacy Practice Experiences in the fourth professional year. This elective course is designed to further develop the student’s knowledge and understanding of pharmacy practice by providing direct patient care in a specific area under the supervision of a preceptor. Potential opportunities may include but are not limited to Adult Medicine, Cardiology, Compounding, Hematology/Oncology, Independent Pharmacy, Critical Care, Long-term Care, Medical Missions, and Rehabilitation Medicine.

Non-Patient Care Elective:

PHAR 6670 Non-Patient Care Elective – 6 credits
The Non-Patient Care Elective Advanced Pharmacy Practice Experience is an optional Advanced Pharmacy Practice Experience in the fourth professional year. This elective course is designed to further develop the student’s knowledge and understanding of pharmacy practice in a non-patient care setting under the supervision of a preceptor. Potential opportunities may include but are not limited to Research, Academia, Management or Regulatory experiences.