

# PHARMACY (PHAR)

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## PHAR 041G – Professionalism Portfolio I

0 credits  
In-Person

## PHAR 042G – Professionalism Portfolio II

0 credits

## PHAR 043G – Professionalism Portfolio III

0 credits

## PHAR 109G – Personal and Professional Development I

This is the first course in the professional practice sequence that covers performance and affective domains that address the student's skill sets and personal and professional development throughout the curriculum. The purpose of this introductory course is to provide students with a conceptual framework for professionalism. The purpose of this course is to provide the educational activities that foster professional growth of students as well as stimulate the development of professional attitudes, behaviors, dispositions and an understanding of the opportunities within the pharmacy profession.

1 credits  
In-Person

## PHAR 110G – Anatomy Physiology and Pathophysiology I

This course is the first of a three course sequence that covers human anatomy, physiology and pathophysiology. This course, in combination with the Anatomy Laboratory, presents human anatomy from a structure and function foundation. The discussion of basic cellular structure and cell function will be followed by study of the gross anatomy of the human body using the system approach. Anatomical structure and function will be discussed with particular attention to those components most important for the practicing pharmacist. The systems covered are the nervous, muscular, endocrine, cardiovascular, respiratory, digestive, urinary, and reproductive systems.

4 credits  
In-Person

## PHAR 115G – Anatomy Physlgy Pathophys II

As the second in the two-course sequence that covers human anatomy, physiology and pathophysiology, this course continues with the discussion of the anatomy, physiology and pathophysiology of the gastrointestinal, neurological, integumentary, endocrine and reproductive systems. An emphasis is placed throughout the course on understanding normal physiological processes and how disease perturbs such processes. Commonly used clinical laboratory values, and their application to diagnosis and monitoring of disease, are introduced as appropriate

4 credits  
In-Person

## PHAR 117G – Principles of Drug Action I

This is the first course in the sequence which focuses on principles of medicinal chemistry and drug development. This course covers functional groups, acid and base theory, solubility, drug binding interactions, stereochemistry, drug metabolism, SAR and drug design.

2 credits  
In-Person

## PHAR 118G – Integrated Case Studies I

This is a three course series in the first professional year designed to engage students in course related activities. This is the first in course series consisting of activities designed to bring relevance to concepts presented in the classroom from 4 courses: Anatomy, Physiology & Pathophysiology; Biochemistry with Clinical Correlations; Biostatistics; and Principles of Drug Actions, I. This course includes but not limited to assigning interactive sessions leading to active learning, critical thinking and problem solving. It could include breakout room activity such as practice problems sessions/workshops, course related cases/vignettes, short quizzes, essay type assignments, reading recitations, reflections, projects, and material/exam reviews. The experience should continue the transition from courses instruction to the application or practice phase of pharmacy.

1 credits  
In-Person

## PHAR 120G – Pharmacy Practice I: Foundations in Therapeutics and Clinical Reasoning

Pharmacy Practice I–Foundations in Therapeutics and Clinical Reasoning improves the student pharmacist skill making decisions for patients. The course introduces students to clinical reasoning and decision-making skills in analyzing data to formulate a patient specific assessment and patient-care plan. Students will learn a systemic process of clinical decision-making applied to pharmacy practice, data interpretation, and pharmaceutical care documentation. This course is composed of four domains: 1) Social and behavioral aspects of pharmacy practice; 2) Pharmaceutical Care as the professional practice for patient-centered management; 3) Pharmacists' Patient Care Process (PPCP) and 4) Critical Thinking, Problem-Solving, Clinical Reasoning, and Clinical Decision- Making to optimize patient care outcomes.

2 credits  
In-Person

## PHAR 121G – Health Care Systems & Policy

The course provides an introduction to the U.S. health care system, managed health care and pharmacy services. The structure, organization, and delivery of health care in the United States are presented with emphasis placed on the pharmacist's role in patient care. Problems with the system will be covered along with approaches being used to address these problems. Emphasis will be placed on where pharmacy operates within our health care system, how it can be the solution to some of our health care problems and the major currently debatable issues surrounding health care.

2 credits  
In-Person

## PHAR 122G – Integrated Case Studies II

This is the second course in a three course series in the first professional year designed to engage students in course related activities. This is the second in course series consisting of activities designed to bring relevance to concepts presented in the classroom from Anatomy, Physiology & Pathophysiology II and Pharmaceutics. This course includes but is not limited to assigning interactive sessions leading to active learning, critical thinking and problem solving. It could include breakout room activity such as practice problem sessions/workshops, course related cases/vignettes, short quizzes, essay type assignments, reading recitations, reflections, projects, and material/exam reviews. The experience should continue the transition from courses instruction to the application or practice phase of pharmacy

1 credits  
In-Person

**PHAR 132G – Integrated Case Studies III**

This is the third course in a course series in the first professional year designed to engage students in course related activities. This is the third in course series consisting of activities designed to bring relevance to concepts presented in the classroom from Principles of Drug Action II and Biopharmaceutics. This course includes but is not limited to assigning interactive sessions leading to active learning, critical thinking and problem solving. It could include breakout room activity such as practice problem sessions/workshops, course related cases/vignettes, short quizzes, essay type assignments, reading recitations, reflections, projects, and material/exam reviews. The experience should continue the transition from courses instruction to the application or practice phase of pharmacy.

1 credits

In-Person

**PHAR 133G – Health Information Retrieval & Informatics**

This course prepares students to acquire and develop both the knowledge and skills to retrieve healthcare related information. Students receive a review of drug information resources, background questioning and search strategy, with an emphasis on specialty references and databases. The students will also receive an introduction to the concepts of informatics.

1 credits

In-Person

**PHAR 134G – Biostatistics**

Basic statistical concepts important to the practice of pharmacy and medicine will be introduced. Students will be exposed to basic descriptive statistics related to presentation, organization, and summarization of data. The course will also cover basic research design.

2 credits

In-Person

**PHAR 137G – Principles of Drug Action II**

This is the second course in the sequence that teaches the pharmacology, and medicinal chemistry of medicinal agents. The integrated nature of this course emphasizes the interrelationship of these areas that is vital to understanding the basis of patient centered pharmaceutical care. Fundamental knowledge in these areas allows the clinician to understand the theory and application to aid in the selection of the proper therapeutic agent or agents for disease control in the presence of a number of variables including patient variables such as age, gender, diet, and co-existing conditions; drug variables, such as potency, adverse effects, interactions, pharmacokinetics and others such as cost, availability, etc. This course will finish central nervous system disorders and then cover the therapeutics of pain management, as well as the medicinal chemistry and pharmacology of the drugs used to treat these conditions.

4 credits

In-Person

**PHAR 138G – Principles of Drug Action III**

This is the Third course in the sequence that teaches the pharmacology, and medicinal chemistry of medicinal agents. The integrated nature of this course emphasizes the interrelationship of these areas that is vital to understanding the basis of patient centered pharmaceutical care. Fundamental knowledge in these areas allows the clinician to understand the theory and application to aid in the selection of the proper therapeutic agent or agents for disease control in the presence of a number of variables including patient variables such as age, gender, diet, and co-existing conditions; drug variables, such as potency, adverse effects, interactions, pharmacokinetics and others such as cost, availability, etc. This course covers essential pharmacology and medicinal chemistry on topics including dyslipidemia, hypertension, thrombosis, arrhythmia, heart failure, renal and respiratory disorders, anemia, diabetes, endocrine disorders, GI disorders, arthritis and other inflammatory conditions, and chemotherapy for cancers.

5 credits

In-Person

**PHAR 139G – Self Care Holistic Wellness I**

This course will present those conditions considered to be self-treatable according to current medical guidelines. For the respective conditions, a survey of the products available, their effectiveness, proper selection and appropriate patient counseling will be discussed. Counseling strategies specific to OTC products will also be presented. This course also includes holistic wellness approach that addresses the body, mind and spirit or the physical, emotional/mental and spiritual aspects of an individual such as massage therapy, Tai Chi, yoga, progressive muscle relaxation, and Reiki.

2 credits

In-Person

**PHAR 141G – Pharmaceutics**

This course studies physical pharmacy and pharmaceutical dosage forms. Students will learn to apply their knowledge of the physical and chemical properties of drugs to the ability to formulate stable dosage forms that can be utilized in commercial production of, or individually compounded, drug products. Students will be introduced to the theory and practice involved in the rational selection of dosage forms and drug delivery systems as well as issues that may arise from these choices. The theory and practice of pharmaceutical compounding, including a discussion of Good Manufacturing Practices (GMPs) and Good Compounding Practices will be presented. Legal and professional issues will also be presented.

3-4 credits

In-Person

**PHAR 145G – Pharmaceutical Calculations**

This is an introduction to metrology and pharmaceutical calculations. A brief review of basic mathematical concepts is followed by historical review of measurement systems specific to the profession of pharmacy. Detailed interpretation of the prescription and the variety of abbreviations and notations utilized is followed by presentation of the methods used to calculate, express, or determine the amount of drug to utilize in the preparation of a variety of pharmaceutical preparations ranging from oral, topical, optic, ophthalmic and finally to parenteral products. Determination of drug concentration, toxicity, equivalents, potency, proof, density and specific gravity is also addressed.

2, 3 credits

In-Person

**PHAR 150G – Biochemistry with Clinical Correlations**

This course is an introduction to the physical, chemical, structural, and functional properties of molecules associated with the chemistry of life processes. Carbohydrate, lipid, protein, and nucleic acid biosynthesis and/or degradation will be discussed along with DNA and RNA biosynthesis, enzymology, and gene expression.

4 credits

In-Person

**PHAR 161G – Patient Skills Lab I**

This course first in five-Patient Care Skills lab course sequence. This course provides students an understanding of patient encounters and provides the necessary skills to perform, participate and understand while managing difficult patient encounters. This course also includes social and behavioral aspects of patient interaction techniques and clinical decision making skills in patient care. This course examines the specialized communication skills used in the practice of patient counseling. Students will study basic counseling skills, and interventions, including important areas such as self-awareness, information and knowledge that contribute to becoming effective counselors.

1 credits

In-Person

**PHAR 162G – Patient Care Skills Lab II**

In this course students will become proficient with the equipment, calculations, procedures, and records used in the nonsterile compounding of various dosage forms. Good Compounding Practices adopted by the National Association of Boards of Pharmacy will be followed. Practical examples of compounding of liquid, solid, and semi-solid oral dosage forms as well as enteral and topical products will be prepared as part of the laboratory exercises.

1 credits

In-Person

**PHAR 169G – Biopharmaceutics**

This is a study of drug absorption, distribution, metabolism and excretion (ADME) as well as individual differences that influence these processes. Drug parameters that control ADME will be studied, such as solubility, pKa, molecular size, and protein binding. Physiological determinants underlying ADME, such as cellular transporters, hepatic metabolism, and hepatic and renal elimination, as well as factors affecting drug distribution will also be presented. Finally, the concept of bioequivalence, its determination and application will be presented.

3-4 credits

In-Person

**PHAR 172G – Introductory Pharmacy Practice Experience, Community**

This Introductory Pharmacy Practice Experience (IPPE) is designed as an introduction to the profession of pharmacy. It offers the initial exposure of students to community pharmacy workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient centered care for the rest of their academic and professional careers. Students will spend four hours a week for twelve weeks in a community pharmacy setting, for a total of 48 hours.

1 credits

In-Person

**PHAR 173G – Introductory Pharmacy Practice Experience, Community**

This introductory pharmacy practice experience (IPPE) is designed as an introduction to the profession of pharmacy in the community setting. It offers the initial exposure of students to community pharmacy workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care for the rest of their academic and professional careers. This rotation will develop the students skills in patient interviews, patient profiles/charts, patient interviews and focus on ensuring medication safety. Other skills that will be advanced include the knowledge of medication distribution systems and practice management. The skills developed during this sequence will prepare the student to enter into the Advanced Pharmacy Practice Experiences (APPEs) during the fourth year of the professional pharmacy curriculum.

0-3 credits

In-Person

**PHAR 174G – Introductory Pharmacy Practice Experience, Institutional**

3 credits

In-Person

**PHAR 199G – Milestone Progression Exam I**

0 credits

**PHAR 208G – Research Methods**

Two important inferential statistical techniques: Logistic regression and Time-to-event analysis will be introduced in this course. The course will also introduce different types of fundamental study designs (RCT, Cohort Study, Case Control Study ) used in pharmacy and clinical research. Students will also read and analyze articles published in the medical literature and evaluate the statistical methodology being used.

1 credits

In-Person

**PHAR 209G – Public Health and Pharmacoepidemiology**

1 credits

In-Person

**PHAR 214G – Integrated Case Studies IV**

This is the fourth course in a case studies course series in the second professional year designed to engage students in course related activities. Activities are designed to bring relevance to concepts presented in the classroom from Principles of Drug Action III and Immunology and microbiology. This course includes but is not limited to assigning interactive sessions leading to active learning, critical thinking and problem solving. It could include breakout room activity such as practice problem sessions/workshops, course related cases/vignettes, short quizzes, essay type assignments, reading recitations, reflections, projects, and material/exam reviews. The experience should continue the transition from courses instruction to the application or practice phase of pharmacy.

1 credits

In-Person

**PHAR 215G – Integrated Case Studies V**

(Part 2) This course is designed to increase competence in developing a well-designed and patient oriented pharmaceutical care plan. The pharmaceutical care plan is used to identify, prevent and resolve actual or potential drug-related problems. This results in improved clinical outcomes, patient satisfaction and quality of life as well as a reduction in drug related morbidity and mortality.

1 credits

In-Person

**PHAR 216G – Integrated Case Studies VI**

(Part 3) This course is designed to increase competence in developing a well-designed and patient oriented pharmaceutical care plan. The pharmaceutical care plan is used to identify, prevent and resolve actual or potential drug-related problems. This results in improved clinical outcomes, patient satisfaction and quality of life as well as a reduction in drug related morbidity and mortality.

1 credits

In-Person

**PHAR 217G – Principles of Drug Action III**

This is the Third course in the sequence that teaches the pharmacology, and medicinal chemistry of medicinal agents. The integrated nature of this course emphasizes the interrelationship of these areas that is vital to understanding the basis of patient centered pharmaceutical care.

Fundamental knowledge in these areas allows the clinician to understand the theory and application to aid in the selection of the proper therapeutic agent or agents for disease control in the presence of a number of variables including patient variables such as age, gender, diet, and co-existing conditions; drug variables, such as potency, adverse effects,

interactions, pharmacokinetics and others such as cost, availability, etc. This course covers essential pharmacology and medicinal chemistry on topics including dyslipidemia, hypertension, thrombosis, arrhythmia, heart failure, renal and respiratory disorders, anemia, diabetes, endocrine disorders, GI disorders, arthritis and other inflammatory conditions, and chemotherapy for cancers.

This course covers essential pharmacology and medicinal chemistry on topics including dyslipidemia, hypertension, thrombosis, arrhythmia, heart failure, renal and respiratory disorders, anemia, diabetes, endocrine disorders, GI disorders, arthritis and other inflammatory conditions, and chemotherapy for cancers.

5 credits

In-Person

**PHAR 218G – Self Care & Holistic Wellness I**

This course will present those conditions considered to be self-treatable according to current medical guidelines. For the respective conditions, a survey of the products available, their effectiveness, proper selection and appropriate patient counseling will be discussed. Counseling strategies specific to OTC products will also be presented. This course also includes holistic wellness approach that addresses the body, mind and spirit or the physical, emotional/mental and spiritual aspects of an individual such as massage therapy, Tai Chi, yoga, progressive muscle relaxation, and Reiki.

2 credits

In-Person

**PHAR 221G – Health Care Systems and Policy**

The course provides an introduction to the U.S. health care system, managed health care and pharmacy services. The structure, organization, and delivery of health care in the United States are presented with emphasis placed on the pharmacist's role in patient care. Problems with the system will be covered along with approaches being used to address these problems. Emphasis will be placed on where pharmacy operates within our health care system, how it can be the solution to some of our health care problems and the major currently debatable issues surrounding health care.

2 credits

In-Person

**PHAR 224G – Med Micro and Immunology**

An integrated course in immunology and microbiology that emphasizes the role of each in the maintenance of health and the development, progression, and treatment of disease states related to immune dysfunction, microbiological infection, or both. An introduction to innate immunity, including biochemical and cellular aspects, as well as adaptive immunity, including humoral and cell-mediated immunity, and immunological memory is followed by a discussion of diseases of the immune system, the role of immunity in neoplasia, and manipulation of the immune system by pathogens, drugs and diet. Basic principles of microbiology including classification, anatomy, staining, and genetics of microorganisms is followed by a more detailed discussion of medically important bacteria, mycoplasmas, rickettsiae, chlamydiae, viruses, fungi, and parasites. Emphasis is placed on mechanisms of pathogenesis, methods of control, mechanisms of resistance, and prevention of diseases caused by these organisms as well as the inter-relationship between micro-organisms and the immune system.

3, 4 credits

In-Person

**PHAR 228G – Pharmacy Administration and Management and Entrepreneurship**

Basic managerial, organizational, and financial management concepts are presented that enable the practicing pharmacist to manage people, change, structural demands, and organizational behavior to provide optimum care and services as a health professional. This course will also introduce entrepreneurial and marketing topics for use in pharmacy and health care system practice environments. The analysis of management principles as they relate to community and health-system pharmacy management will be stressed including planning, organizing, motivation and marketing.

2 credits

In-Person

**PHAR 229G – Pharmacotherapy III**

The course is designed to train students in the last 3 components of the Pharmacists' Patient Care Process (PPCP): Plan, Implement, and Follow-Up. Guided by the instructors in the course, students will be complete their thought process or approach to pharmacotherapeutic problems. The course will rely on team-based learning and a flipped-classroom model to engage students in the application of pharmacotherapy as it relates to patient care plans.

5 credits

In-Person

**PHAR 231G – Pharmacotherapy I**

5 credits

In-Person

**PHAR 232G – Pharmacotherapy II**

5 credits

In-Person

**PHAR 233G – Pharmacy Practice II Topics in Patient Care**

This course covers the practice of pharmacy in health care systems such as hospital, home care, managed care, hospice and palliative care as well as ambulatory and long-term care. Discussions will focus on the types of patients treated, models of practice and practice standards as well as the various accreditation agencies, government regulation, and institutional policies and procedures. Additional topics may also include the following: include parenteral and enteral nutrition, Pharmacy and Therapeutic (P&T) Committees, investigational drug use, medication reconciliation, ethics boards, and code response involvement as well as technological advances and automation

3 credits

In-Person

**PHAR 241G – Integrated Infectious Disease**

This is the first course in the Infectious Disease sequence that teaches the pharmacology, medicinal chemistry and therapeutics of agents used to treat infectious diseases. The integrated nature of this course emphasizes the interrelationship of these areas that is vital to understanding the basis of patient-centered pharmaceutical care. Fundamental knowledge in these areas allows the clinician to understand the theory and application to aid in the selection of the proper therapeutic agent or agents for infection control in the presence of a number of variables including patient variables such as age, gender, diet, and co-existing conditions; drug variables such as potency, adverse effects, interactions, and pharmacokinetics; and others such as cost, drug availability, and alternative treatments available. This course will cover agents used to treat infections caused by bacteria.

3 credits

In-Person

**PHAR 251G – Integrated Toxicology and Patient Safety**

2 credits

In-Person

**PHAR 253G – Personal and Professional Development II**

1-3 credits

In-Person

**PHAR 254G – Patient Care Skills Lab IV**

1 credits

In-Person

**PHAR 256G – Patient Care Skills Lab III**

This laboratory will familiarize the student with basic patient assessment including the practice of inspection, palpation, percussion and auscultation. These fundamental physical assessments will be incorporated into patient evaluations while using clinically relevant patient data, drug histories/interviews, laboratory values, and point-of-care diagnostic tests. Principles of medication therapy management (MTM) will be used to develop pharmaceutical care plans with acting patients who will then be counseled.

1 credits

In-Person

**PHAR 262G – IPPE Intro Clinical Services II**

This IPPE provides direct practical experience to the student in a healthcare system setting, specifically in a center providing ambulatory care. The students will become familiar with the role of the pharmacist as part of an interdisciplinary team in the provision of patient care. Students will also conduct patient interviews, review patient profiles/charts, and further develop their SOAP note skills. The skills developed during this course will prepare the student to enter into the Advanced Pharmacy Practice Experiences (APPEs) during the fourth year of the professional pharmacy curriculum.

1 credits

**PHAR 263G – IPPE Clinical**

0-3 credits

**PHAR 265G – IPPE Community**

0-3 credits

In-Person

**PHAR 269G – Biopharmaceutics**

This is a study of drug absorption, distribution, metabolism and excretion (ADME) as well as individual differences that influence these processes. Drug parameters that control ADME will be studied, such as solubility, pKa, molecular size, and protein binding. Physiological determinants underlying ADME, such as cellular transporters, hepatic metabolism, and hepatic and renal elimination, as well as factors affecting drug distribution will also be presented. Finally, the concept of bioequivalence, its determination and application will be presented.

4 credits

In-Person

**PHAR 299G – Milestone Progression Exam II**

A comprehensive examination will be given at the end of the second year that will assess knowledge and skills acquired in the first two years. Students must pass this examination to progress to the third professional year.

0 credits

**PHAR 308G – Lit Evaluation and Evidence Based Practice**

1 credits

In-Person

**PHAR 309G – Pharmacoeconomics and Health Outcomes**

1 credits

In-Person

**PHAR 313G – Pharmacy Practice II Topics in Patient Care**

3 credits

In-Person

**PHAR 314G – Pharmacogenomics and Personalized Medicine**

This course covers the practice of pharmacy in health care systems such as hospital, home care, managed care, hospice and palliative care as well as ambulatory and long-term care. Discussions will focus on the types of patients treated, models of practice and practice standards as well as the various accreditation agencies, government regulation, and institutional policies and procedures. Additional topics may also include the following: include parenteral and enteral nutrition, Pharmacy and Therapeutic (P&T) Committees, investigational drug use, medication reconciliation, ethics boards, and code response involvement as well as technological advances and automation.

1 credits

In-Person

**PHAR 315G – Integrated Case Studies VII**

(Part 1) This course is designed to increase competence in developing a well-designed and patient oriented pharmaceutical care plan. The pharmaceutical care plan is used to identify, prevent and resolve actual or potential drug-related problems. This results in improved clinical outcomes, patient satisfaction and quality of life as well as a reduction in drug related morbidity and mortality.

1 credits  
In-Person

**PHAR 316G – Integrated Case Studies VIII**

(Part 2) This course is designed to increase competence in developing a well-designed and patient oriented pharmaceutical care plan. The pharmaceutical care plan is used to identify, prevent and resolve actual or potential drug-related problems. This results in improved clinical outcomes, patient satisfaction and quality of life as well as a reduction in drug related morbidity and mortality.

1 credits  
In-Person

**PHAR 317EG – Nuclear Pharmacy Elective**

This course will serve as an introduction to nuclear pharmacy practice. This course provides basic information about the profession of nuclear pharmacy, as well as an introduction to basic principles and concepts of radioactivity, radiation safety, and roles of a nuclear pharmacist.

1 credits  
OnLine

**PHAR 317G – Integrated Case Studies IX**

(Part 3) This course is designed to increase competence in developing a well-designed and patient oriented pharmaceutical care plan. The pharmaceutical care plan is used to identify, prevent and resolve actual or potential drug-related problems. This results in improved clinical outcomes, patient satisfaction and quality of life as well as a reduction in drug related morbidity and mortality.

1 credits  
In-Person

**PHAR 318G – Self Care and Holistic Wellness II**

3 credits  
In-Person

**PHAR 325EG – Advanced Diabetes Management**

1, 1 credits  
Lecture

**PHAR 327EG – Antimicrobial Stewardship**

1 credits  
In-Person

**PHAR 327G – Integrated Basic and Applied Pharmacokinetics**

General principles of pharmacokinetic models are presented as they pertain primarily to the processes of absorption and elimination of drugs. Detailed mathematical models will be developed and utilized to determine the appropriate dose and dose interval based on patient-specific data utilizing relevant examples throughout. Therapeutic monitoring of drug levels in the patient and adjustments in dosing based on monitoring will also be presented. This is followed by discussion of specific examples using drugs commonly dosed and monitored using detailed pharmacokinetic analysis.

3 credits  
In-Person

**PHAR 332G – Pharmacotherapy III**

5-6 credits  
In-Person

**PHAR 333G – Advanced Pharmacotherapy I**

5 credits  
In-Person

**PHAR 334G – Advanced Pharmacotherapy II**

5 credits  
In-Person

**PHAR 335G – Advanced Pharmacotherapy III**

5 credits  
In-Person

**PHAR 340EG – Comprehensive Diabetes Management**

1 credits  
In-Person

**PHAR 341EG – Entrepreneurship Ambulatory Care Practice**

1 credits  
In-Person

**PHAR 342EG – Advanced Cardio Management**

1 credits  
In-Person

**PHAR 343EG – Chronic Disease Management**

1 credits  
In-Person

**PHAR 344EG – Public Health in Ambulatory Care Management**

1 credits  
In-Person

**PHAR 345EG – Chronic Disease State Management**

1 credits  
In-Person

**PHAR 346EG – Pharmacy Management of Patient Social Determinates in Patient Care**

1 credits  
In-Person

**PHAR 347EG – Advanced Oncology**

1 credits  
In-Person

**PHAR 350EG – Emergency Medicine**

1 credits  
In-Person

**PHAR 351EG – Opioid Stewardship Pain and Palliative Care**

1 credits  
In-Person

**PHAR 351G – Toxicology**

A discussion of the general principles of toxicology is followed by general principles of management of poisoning. The students are familiarized with the purpose and functioning of poison control centers, with emphasis on the role of pharmacists. The top 5 categories of non-drug and drug-induced poisonings in United States based on the most recent AAPCC data report are identified. These toxicities, prevention, assessment, and their antidotes/treatment approaches are then discussed. Antidotes and treatments that are covered appear in blue alongside the relevant topics. Finally, bioterrorism agents and disaster preparedness topics are presented.

2 credits  
Lecture

**PHAR 352G – Patient Care Skills Lab V**

1 credits  
In-Person

**PHAR 353EG – Special Topics in Pediatrics**

1 credits  
In-Person

**PHAR 353G – Personal and Professional Development III**

1 credits  
In-Person

**PHAR 354EG – Topics Discussions Considerations Pharmacy and Geriatrics**

1 credits  
In-Person

**PHAR 354G – Patient Care Skills Lab VI**

1 credits  
In-Person

**PHAR 355EG – Nutrition and Transplantation**

1 credits  
In-Person

**PHAR 356EG – Seminar in Evidenced Based CC**

1 credits  
In-Person

**PHAR 357EG – Psychiatry and Mental Health**

1 credits  
In-Person

**PHAR 358EG – Medical Writing**

1 credits  
In-Person

**PHAR 360EG – Health Care Informatics**

1 credits  
In-Person

**PHAR 361EG – Drug Pricing Contracts and Marketing**

1 credits  
In-Person

**PHAR 362EG – Advanced Health Care Systems and Services**

1 credits  
In-Person

**PHAR 364EG – Pharmacovigilance**

1 credits  
In-Person

**PHAR 365EG – Entrepreneurship Community Pharmacy Management**

1 credits  
In-Person

**PHAR 366EG – Form Management and Drug Utilization Review**

1 credits  
In-Person

**PHAR 367EG – Leadership in MCO PCMH's and ACO's**

1 credits  
In-Person

**PHAR 368EG – Pharmacoeconomic Modelling**

1 credits  
In-Person

**PHAR 368G – Pharmacy Law and Ethics**

Federal and state laws and regulations which pertain to the practice of pharmacy in Georgia are presented in detail. General business law and liability issues which affect the practice of pharmacy will also be discussed. Finally, ethical issues as they relate to the practice of pharmacy, and health care delivery in general, are examined.  
3 credits  
In-Person

**PHAR 369EG – Drug Information in the Pharmacy Industry**

1 credits  
In-Person

**PHAR 390EG – Introduction to Medical Cannabis**

1 credits  
In-Person

**PHAR 399G – Milestone Progression Exam III**

A comprehensive examination will be given at the end of the third professional year that will assess knowledge and skills acquired in the first three years of education at PCOM School of Pharmacy. Students must pass this examination to progress to the fourth professional year. The examinations include a comprehensive multiple-choice exam and a short answer calculation exam.  
0 credits

**PHAR 410G – Advanced Community Pharmacy**

This Advanced Pharmacy Practice Experience (APPE) is designed for the students to obtain supervised professional experience as a community pharmacist. This advanced rotation exposes students to community pharmacy workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.  
4 credits  
In-Person

**PHAR 420G – Advanced Health Systems Pharmacy**

This Advanced Pharmacy Practice Experience (APPE) is designed for the students to obtain supervised professional experience in the functions of a staff pharmacist in an institutional pharmacy. This advanced rotation exposes students to health care system workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.  
4 credits  
In-Person

**PHAR 430G – Advanced Ambulatory Care**

This Advanced Pharmacy Practice Experience (APPE) is designed for the students to obtain supervised professional experience in the functions of a clinical pharmacist in the ambulatory care practice setting. Ambulatory care pharmacy is defined as "direct pharmaceutical care services provided to patients in an outpatient environment, exclusive of dispensing services." This advanced rotation exposes students to ambulatory care workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.  
4 credits  
In-Person

**PHAR 440G – Advanced Community Management**

This Advanced Pharmacy Practice Experience (APPE) is designed for the students to obtain supervised professional experience in the managerial functions of a community pharmacist. This advanced rotation exposes students to leadership and managerial skills necessary in the community pharmacy workplace. This course helps students develop the requisite knowledge necessary to understand inventory control, profit and loss statements and human resource issues.

4 credits

In-Person

**PHAR 450G – Advanced Inpatient Acute Care and Diverse Populations**

This Advanced Pharmacy Practice Experience (APPE) is designed for the students to obtain supervised professional experience in the functions of a clinical pharmacist in the acute care practice setting. Clinical intervention and the steps necessary to effectively execute those interventions will be a primary focus of this rotation. This advanced rotation exposes students to health care system workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits

In-Person

**PHAR 499G – Capstone**

A Capstone II (Comprehensive Examination Fourth Year) will be given at the end of the fourth professional year that will assess knowledge and skills acquired in the four years of education at PCOM School of Pharmacy. Students must pass this Capstone II to graduate from the program.

0 credits

**PHAR 501G – Academia**

An elective experience designed to stimulate the interest of pharmacy students in academia and provide the student with an understanding of the functions and processes of teaching, service and scholarship. Students may be exposed to situations that will increase their understanding of the various responsibilities of a full-time faculty position in pharmacy education.

4 credits

In-Person

**PHAR 502G – Administrative Hospital**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the administrative duties of healthcare systems. Depending on the site, students may be exposed to situations that will increase their knowledge in the area of administrative, behavioral, economic and legal sciences. The role of the pharmacy director/manager will be a primary emphasis of this experience.

4 credits

In-Person

**PHAR 503G – Administrative Community**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the administrative duties of community pharmacy. Depending on the site, students may be exposed to situations that will increase their knowledge in administrative, behavioral, economic and legal sciences. The role of the manager will be a primary emphasis of this experience.

4 credits

In-Person

**PHAR 504G – Associations**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the management of national, regional or state pharmacy organizations. Depending on the site, the students may be exposed to situations that will increase their knowledge and understanding of the purpose, roles and responsibilities of pharmacy associations in the profession.

4 credits

In-Person

**PHAR 505G – Industry**

An elective practice experience designed to enable the student to acquire general knowledge and high level of exposure to the pharmaceutical industry, with exposure to a variety of areas within the pharmaceutical industry.

4 credits

In-Person

**PHAR 506G – Regulatory Affairs**

4 credits

In-Person

**PHAR 510G – Community Pharmacy Ownership**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding basic fundamentals of owning and running an independent community pharmacy. This advanced rotation exposes students to community pharmacy workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits

In-Person

**PHAR 511G – Pharmacy Benefit Manager**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding basic knowledge and a high level of exposure to a variety of activities conducted by a Pharmacy Benefit Manager. A PBM is an organization that manages the pharmaceutical benefits for managed care organizations, other medical providers or employers. Depending on the site, the student may be exposed to numerous activities to promote managed care principles, including benefit plan design, creation/administration of retail and mail service networks, claims processing, drug utilization review, formulary management, generic dispensing, prior authorization and/or disease and health management.

4 credits

In-Person

**PHAR 512G – Informatics**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the history, language and concepts of information technology in the field of pharmacy. Depending on the site, students may be exposed to database management, automation and robotics, electronic prescribing, and health records.

4 credits

In-Person



**PHAR 514G – Pharmacokinetics**

An elective practice experience designed to enable the student to acquire skills and knowledge in the functioning of an established clinical pharmacokinetics practice and information on methods for establishing such a service. Expertise in calculations is expected from previous coursework. This advanced rotation exposes students to health care system workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits  
In-Person

**PHAR 515G – Cardiology**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the pharmacotherapy of various cardiovascular disease states in a diverse patient population. This advanced rotation exposes students to health care system workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits

**PHAR 516G – Nephrology**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the pharmacotherapy of a patient with various diseases of the kidney. This advanced rotation exposes students to health care system workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits  
In-Person

**PHAR 517G – Mail Order Pharmacy**

4 credits  
In-Person

**PHAR 518G – Neonatal Intensive Care Unit**

4 credits  
In-Person

**PHAR 520G – Compounding**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the rationale for and the various techniques used in the extemporaneous compounding of pharmaceutical products. This advanced rotation exposes students to community pharmacy workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits  
In-Person

**PHAR 521G – Drug Information**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the practice of basic drug information. Depending on the site, the students may be exposed to activities such as preparing formulary evaluations, writing pharmacy newsletters, working on special interest projects and enhancing their verbal and written communication skills.

4 credits  
In-Person

**PHAR 522G – Medication Reconciliation**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the practice of medication reconciliation. Depending on the site, the student will be exposed to the process of comparing a patient's medication orders to all of the medications that the patient has been taking. This advanced rotation exposes students to health care system workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient centered care.

4 credits  
In-Person

**PHAR 523G – Medication Therapy Management**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the pharmacist's role in providing Medication Therapy Management services. Depending on the site, the student will be trained to evaluate a patient's medication therapy, including drug interactions, duplications or omission of therapy. This advanced rotation exposes students to community pharmacy workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits  
In-Person

**PHAR 524G – Medication Safety**

4 credits  
In-Person

**PHAR 525G – Anticoagulation**

4 credits  
In-Person

**PHAR 530G – Critical Care**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the pharmacotherapy of a critically ill patient in a hospital setting. The student will be exposed to various medication management strategies of various critical conditions.

4 credits  
In-Person

**PHAR 532G – Home Healthcare**

4 credits  
In-Person

**PHAR 533G – Long-Term Care**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding treatment of geriatric patients in a long term care facility. Depending on the site, students may be exposed to situations that will increase their ability to demonstrate empathy for the elderly and develop pharmaceutical care plans for various chronic disease states with consideration of various pharmacokinetic properties, dosing principles, and therapeutic drug monitoring parameters of geriatric patients in long term care facilities. This advanced rotation exposes students to health care system workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits  
In-Person

**PHAR 534G – Managed Care**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the practice of clinical pharmacy in the managed care setting. Students will be exposed to pharmacy administration issues such as formulary development and management, therapeutic class reviews, pharmacoeconomics analysis, communication with patients, providers, and employer groups, counseling and participation in prior authorization process and other third-party reimbursement issues.

4 credits  
In-Person

**PHAR 538G – Healthcare Busn Management**

4 credits  
In-Person

**PHAR 541G – Infectious Disease**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding the pharmacotherapy of patients with various infectious diseases. This advanced rotation exposes students to health care system workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits  
In-Person

**PHAR 543G – Nuclear**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding basic pharmaceutical care, radiopharmaceutical compounding, quality assurance, health physics and regulatory compliance.

4 credits  
In-Person

**PHAR 544G – Nutritional Support**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding basic nutritional principles, nutritional assessment, and management of the patient requiring enteral and/or total parenteral nutrition support. This advanced rotation exposes students to health care system workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits  
In-Person

**PHAR 545G – Oncology**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding basic clinical oncology pharmacy practice. Depending on the site, students may be exposed to situations that will enhance their understanding of pharmaceutical support to the inpatient/outpatient oncology service, including staging, treatment, dosing, monitoring, and supportive care issues. This advanced rotation exposes students to health care system workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits  
In-Person

**PHAR 546G – Pediatrics**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding basic pharmacotherapy of pediatric patients with common childhood acute and chronic illnesses. Depending on the site, students may be exposed to different pharmacokinetic properties, dosing principles and therapeutic drug monitoring in children. This advanced rotation exposes students to health care system workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits  
In-Person

**PHAR 547G – Poison Control**

4 credits  
In-Person

**PHAR 548G – Psychiatry**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding basic clinical pharmacotherapy of various psychiatric disorders of children, adolescents and/or adults. This advanced rotation exposes students to health care system workplaces with diverse patient populations, and helps students develop the requisite knowledge, skills, attitudes, and values for the provision of patient-centered care.

4 credits  
In-Person

**PHAR 549G – Surgery**

4 credits  
In-Person

**PHAR 550G – Public Health**

4 credits  
In-Person

**PHAR 551G – Internal Medicine**

4 credits  
In-Person

**PHAR 553G – Invest New Drug Serv**

4 credits  
In-Person

**PHAR 554G – Veterinary Medicine**

4 credits  
In-Person

**PHAR 555G – Emergency Medicine**

4 credits  
In-Person

**PHAR 590G – Interdisciplinary**

4 credits  
In-Person

**PHAR 591G – Research**

An elective practice experience designed to enable the student to acquire skills and knowledge regarding basic pharmacy-related research. Depending on the site, the student may observe and participate in various stages of ongoing research project(s), including conducting experiments, analyzing data.

4 credits  
In-Person

**PHAR 592G – Specialty Pharmacy Practice**

4 credits  
In-Person

**PHAR 593G – Transition of Care**

4 credits

In-Person

**PHAR 594G – Medical Cannabis Dispensary**

4 credits

In-Person

**PHAR 595G – Interprofessional Ambulatory Care**

4 credits

In-Person

**PHAR 596G – Hematology**

4 credits

In-Person

**PHAR 597G – Transplant Services**

4 credits

In-Person