

# PHARMACY (NON-DEPARTMENTAL) (PHCY)

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## **PHCY 124. Contemporary Communications in Health Care. 1 Credit.**

This course exposes students to approaches and strategies that optimize communication in today's dynamic health care field. It is ideal for those considering a career in the health sciences. Students will engage in multifaceted activities and discussions with experienced practitioners and apply course concepts to real world scenarios.

**Requisites:** Prerequisite, ENGL 105.

**Grading status:** Letter grade.

## **PHCY 504. Evidence-Based Practice. 3 Credits.**

The course teaches students to identify, critically evaluate, and interpret scientific literature to support the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. Skills developed include experimental design, identifying gaps in knowledge, asking relevant questions, and drawing appropriate conclusions.

## **PHCY 519. Self-Care and Non-Prescription Medications. 1.5 Credit.**

Pharmacists are often the first health care professional patients turn to when seeking guidance to treat common ailments. This course focuses on quickly and accurately assessing patients to determine candidacy for self-care therapy, including nonprescription selections. Establishing a process to triage patients regarding self-care management is emphasized.

**Requisites:** Prerequisite, PY1 standing.

## **PHCY 529. Pharmacotherapy: Foundations. 3 Credits.**

This course serves as a transition from foundational coursework to direct patient care and coordinates learning activities with concurrent term courses. Students will learn how to approach patient scenarios and formulate pharmacotherapy recommendations. In-class discussion involves the application of pharmacotherapy principles to patient cases.

**Requisites:** Prerequisites, PHCY 502, 503, and 516.

## **PHCY 610. Horizons: Changing the Landscape of Health Care. 1 Credit.**

This seminar series is designed to expose students to luminaries who are extending the boundaries of what is possible in healthcare and to thought leaders who will engage students in conversation around emerging topics of critical importance in healthcare.

**Grading status:** Pass/Fail.

## **PHCY 611. Applied Clinical Pharmacology. 3 Credits.**

This course applies foundational elements of clinical pharmacology and problem-solving skills to individual patient and population-based clinical scenarios. Emphasis placed on dosing and monitoring pharmacotherapy regimens that maximize desired effects and minimize adverse effects to reinforce content covered in concurrent courses.

**Requisites:** Prerequisites, PHCY 510, 511, and 512.

## **PHCY 621. Pharmacy Innovation and Problem Solving. 3 Credits.**

This course is designed to foster the habits of mind of scholarly and entrepreneurial practitioners. This course is designed for students to develop innovative problem-solving skills through case studies; and for student teams to apply innovative problem solving in proposing a solution to a real-world problem.

**Requisites:** Prerequisite, PHCY 520.

## **PHCY 624. Research and Scholarship in Pharmacy I. 1.5 Credit.**

This course is part of a three-course sequence built around a mentored, in-depth, scholarly project. Students will frame an answerable question with a faculty mentor, generate and interpret relevant data, and communicate their findings in an oral and written forum.

**Requisites:** Prerequisites, PHCY 504 and 621.

## **PHCY 630. Pharmacotherapy: Applied. 4 Credits.**

Pharmacotherapy: Applied serves as a transition from foundational coursework to the direct patient care setting and builds upon basic pharmacotherapy principles learned in Pharmacotherapy: Foundations. Case-based learning and other engagement activities will be utilized to develop clinical decision making and critical and situational thinking skills, as well as the development of team-based learning with comprehensive cases.

**Requisites:** Prerequisite, PY2 Standing.

## **PHCY 631. Pharmacotherapy: Integrated I. 5 Credits.**

This course builds off of PHCY 630 in which students will engage in pharmacotherapeutic decision making that integrates advanced clinical pharmacology and pharmacokinetics.

**Requisites:** Prerequisite, PHCY 630.

## **PHCY 636. Leadership and Professional Development I. 1 Credit.**

This course focuses on leading self before leading others. Students will be guided through the development of a keen sense of self through self-awareness and self-reflection in order to begin developing the "leader within" to lead with and through others.

**Requisites:** Prerequisite, PHCY 501.

## **PHCY 691. Immersion Experience: Health Systems. 8 Credits.**

PHCY 691 is designed to apply foundational knowledge from the classroom and develop pharmacy practice skills within the context of a health system, which is essential for students prior to entering more advanced clinical experiences. This Immersion Experience will be conducted in an inpatient setting.

## **PHCY 700. SHAC: Community Outreach and Service Learning. 0 Credits.**

This course provides service learning opportunities to apply pharmacy practice within the context of inter-professional care for vulnerable populations through participation with local clinic programs. Enrollment is required for participation in any aspect of clinic programs. Enrollment is restricted to Pharmacy students.

**Repeat rules:** May be repeated for credit. 1 total credits. 6 total completions.

## **PHCY 718. The Patient Care Experience II. 2 Credits.**

This course prepares students to fully engage in patient interactions in a wide variety of pharmacy practice settings. Emphasis is placed on pharmacy ethics and patients experiencing mental health crises. Through reflective activities, students identify strengths and opportunities for growth.

**Requisites:** Prerequisite, PHCY 617.

## **PHCY 722. Pharmacy Law: Regulation of Pharmacy Practice. 3 Credits.**

This course surveys the legal and regulatory frameworks that govern pharmacy practice. It begins with a review of the United States legal system. Next, it focuses on federal and state statutes and regulations. It concludes by examining common-law malpractice principles and their application to pharmacy practice.

**Requisites:** Prerequisite, PY3 standing.

**PHCY 725. Research and Scholarship in Pharmacy II. 1.5 Credit.**

Research and Scholarship in Pharmacy 2 is the second course in a 3-course sequence that is built around a mentored, in-depth, scholarly project. Students will frame an answerable question with a faculty mentor, generate and interpret relevant data, and communicate findings in an oral and written forum.

**Requisites:** Prerequisite, PHCY 624.

**PHCY 726. Research and Scholarship in Pharmacy III. 3 Credits.**

This is the third course in a 3-course sequence that is built around a mentored, in-depth, scholarly project. Students will (1) frame an answerable question with a faculty mentor, (2) generate and interpret relevant data, and (3) communicate their findings in an oral and written forum.

**Requisites:** Prerequisite, PHCY 725.

**PHCY 732. Integrative Pharmacotherapy II. 5 Credits.**

Integrative Pharmacotherapy II is the second in a series of three case-based courses. It builds upon the clinical decision-making process and knowledge base introduced in PHCY 631, further developing students' capacity to research, analyze and solve complex, patient medication problems in holistic, evidence-based ways.

**Requisites:** Prerequisite, PHCY 630 and PHCY 631.

**PHCY 733. Integrative Pharmacotherapy III. 5 Credits.**

The last of a three case-based course sequence, PHCY 733 deepens the clinical decision-making process and knowledge base introduced in the preceding courses. Students will further develop their capacities to effectively and efficiently research, analyze and solve complex patient medication problems in a holistic, evidence-based, professional manner.

**Requisites:** Prerequisite, PHCY 732.

**PHCY 737. Leadership and Professional Development II. 1 Credit.**

Leadership and Professional Development II focuses on leaving a leadership legacy. Collaboration, teamwork, and the ability to exercise professionalism in crucial conversations are key to achieving success as a leader. Students will develop their leadership identity within teams, while learning effective strategies to maximize team members' strengths.

**Requisites:** Prerequisite, PHCY 636.

**PHCY 791. Immersion Experience 3. 8 Credits.**

This course is designed to allow student pharmacists to provide patient-centered collaborative care that will optimally prepare students for the Advanced Pharmacy Practice Experiences in the fourth professional year.

**Requisites:** Prerequisites, PHCY 631, 691.

**PHCY 800. Geriatric Pharmacy Practice. 3 Credits.**

This course is designed to provide opportunities to enhance knowledge and skills in geriatric pharmacotherapy and other health disciplines involved in the care of seniors. This course will challenge students to identify and resolve health and medication use problems they may encounter while caring for older patients.

**Requisites:** Prerequisite, PY3 Standing.

**PHCY 801. Radiopharmacy I: Introduction to Radiopharmacy. 1 Credit.**

Radiopharmacy I introduces students to the use of radioactivity in medicine science, the practice of compounding, medical imaging, and the role of pharmacists in molecular imaging. This is the first course in the pathway for completing the didactic requirements of an Authorized Nuclear Pharmacist.

**Requisites:** Prerequisite, PY2 Standing.

**PHCY 802. Radiopharmacy 2 - The Drugs of Nuclear Medicine. 2 Credits.**

Radiopharmacy II is the second course in the series of radiopharmacy curriculum. While fundamental concepts were established in MOPH/PHCY 801, this course will delve into the instrumentation used in radiopharmacy as well as the biological effects of radiation.

**Requisites:** Prerequisite, Completion of Radiopharmacy I (MOPH 801) with a grade of C or better.

**PHCY 803. Radiopharmacy 3. 3 Credits.**

This is the final course in the series of radiopharmacy curriculum. This course will focus sharply on the radiopharmaceuticals and ancillary drugs used in nuclear medicine. Time will also be devoted to ensure the student's understanding of the use of radiopharmaceuticals in drug development and clinical research.

**Requisites:** Prerequisite, PHCY 802.

**PHCY 804. Travel Medicine Care. 1.5 Credit.**

This course prepares students to deliver comprehensive travel medicine care to international travelers. Through readings, lectures, and case discussions, students learn key concepts of travel medications, vaccines, risk assessment and education. This knowledge is applied in a practice experience with a travel vaccine expert.

**Requisites:** Prerequisite, PY2 or PY3 standing.

**PHCY 805. Independent Study and Research in Pharmacy. 1-6 Credits.**

Required preparation, arranged with the faculty member in each individual case. Contract with a faculty member required. Permission of the instructor. Provides opportunities for professional (doctor of pharmacy) students to conduct independent study or participate in research projects designed to introduce them to a specialized area of practice or research.

**PHCY 806. Contemporary Topics in Pharmacy. 1-3 Credits.**

Experimental course, for professional (doctor of pharmacy) students, to determine the need and demand of courses in new content areas. Topics will be chosen by faculty based on current issues.

**Repeat rules:** May be repeated for credit.

**Grading status:** Letter grade.

**PHCY 807. Veterinary Pharmacotherapy. 3 Credits.**

PY3 PharmD students. An introductory course providing students with the knowledge and skills required to provide effective pharmaceutical care and compounds to non-human patients.

**PHCY 808. Critical Care. 3 Credits.**

The course is designed to develop knowledge in common acute diseases encountered in the ICU by utilizing patient cases. Classes will focus on choice and rationale for therapy, dosing guidelines, and monitoring parameters. Two visits to the ICUs at UNC-CH are required.

**Requisites:** Prerequisite, PY3 Standing.

**PHCY 809. Effective Teaching Strategies for Health Sciences Education. 1.5 Credit.**

This course prepares professional students in pharmacy and other health professions to adapt and apply effective, research-based strategies and skills to design, promote, and assess learning in a variety of settings, including: large- and small group teaching, precepting, continuing professional education, and/or patient and community health education.

**Requisites:** Prerequisite, PY2 standing.

**PHCY 810. The Science of Pharmaceutical Compounding. 1 Credit.**

This course immerses students in the exploration of science utilized in contemporary pharmaceutical compounding. Students will investigate relationships between physiochemical principles and compounded preparations, and develop strategies for preparing and assessing correctly and incorrectly compounded preparations.

**Requisites:** Prerequisite, PHCY 513.

**PHCY 811. Infectious Diseases. 1.5 Credit.**

This course expands student knowledge of the pharmacotherapy of bacterial, fungal, and viral infections. It also builds upon topics covered in the required PharmD curriculum, and introduces several new disease states. Presentations and course activities include case and evidence-based discussions led by infectious diseases faculty and practitioners.

**Requisites:** Prerequisite, PY3 standing.

**PHCY 812. Pediatric Pharmacotherapy. 1.5 Credit.**

A comprehensive overview of developmental pharmacology and pharmaceutical management of various disease states in pediatric patients. Emphasis will be placed on nutrition management and pharmacokinetic recommendations for pediatric patients.

**Requisites:** Prerequisite, PY3 standing.

**PHCY 813. Clinical Toxicology. 1.5 Credit.**

This course explores the clinical toxicology of drugs and chemicals and provides an overview of the clinical manifestations, assessment and treatment of poisonings with common drug, chemical and biological agents.

**Requisites:** Prerequisite, PHCY 631.

**PHCY 814. Disaster Preparedness and Emergency Care. 1.5 Credit.**

Students will learn about different types of disasters and the treatment of common disaster related injuries. They will also learn about strategies for health care delivery during disasters.

**Requisites:** Prerequisite, PY2 or PY3 standing.

**PHCY 816. Integrative Medicine. 1.5 Credit.**

This is a survey course intended to introduce students to various complementary and alternative medicine practices, and their integration into traditional medicine. It will utilize active learning strategies to enhance student involvement.

**Requisites:** Prerequisite, PY3 standing.

**PHCY 817. Making Medicine: The Process of Drug Development. 1.5 Credit.**

This course examines the drug development process and its connections to clinical research and healthcare outcomes through independent student exploration of on-line content followed by group activities and facilitated classroom discussion on important issues related to each state of the drug development process.

**Requisites:** Prerequisite, PY2 standing.

**PHCY 821. Contemporary and Applied Communications in Healthcare. 1.5 Credit.**

This course is designed to prepare students who are interested in developing and enhancing their health communication skills across a broader range of constituents in the field of healthcare.

**Requisites:** Prerequisite, PY2 standing.

**PHCY 822. Hematology/Oncology Pharmacotherapy. 3 Credits.**

Prerequisite: PY3 standing. This course explores non-pharmacologic treatment modalities, complications of cancer and treatment, supportive care issues and subspecialties and reviews current cancer screening and prevention guidelines and cancer research.

**PHCY 823. International Clinical Classroom Case Discussion. 2 Credits.**

Permission of the instructor. An elective offering interactions with pharmacy students from other countries, facilitated through the discussion and critical evaluation of relevant clinical cases highlighting pharmacotherapy issues.

**Requisites:** Prerequisite, PY2 or PY3 standing.

**PHCY 830. Introduction to Drug Development. 2 Credits.**

Includes preclinical drug safety evaluation, preclinical pharmacology, design of protocols for Phases I-IV, FDA guidelines for clinical study, preparation of study plan, statistics in clinical trials, data analyzing, and FDA interactions with industry.

**PHCY 831. Applied Self-Care Therapeutics. 1.5 Credit.**

This course utilizes a systematic process to quickly and accurately assess patients for self-care treatment. Team-based learning will engage students in discussion on the appropriate use of nonprescription medications, dietary supplements, and herbal products. Students will apply skills in literature evaluation and practice communicating recommendations to patients and healthcare providers.

**Requisites:** Prerequisites, PHCY 504, PHCY 516, PHCY 601, PHCY 630, PHCY 631.

**PHCY 832. Innovations in Community-Based Pharmacy Practice. 1.5 Credit.**

This course will expose students to novel ways in which community-based pharmacists are leading change and providing patient care, including but not limited to health and wellness services, immunization services, medication management, chronic care management services, care transitions with medication reconciliation, and specialty pharmacy. Students will also complete the National Association of Chain Drug Stores (NACDS) Point-of-Care Testing Certificate Program.

**Requisites:** Prerequisite, PY3 standing.

**PHCY 833. Advanced Cardiovascular Pharmacy. 3 Credits.**

Prerequisite: PY3 Standing. Provides an in-depth discussion of the pharmacotherapy of major cardiovascular diseases such as hypolipidemia, hypertension, ischemic heart disease, heart failure, and arrhythmias.

**PHCY 834. 21st Century Independent Pharmacy Ownership. 3 Credits.**

Independent community pharmacy is a rapidly changing health care industry. In this course, we will explore topics relevant to a career in independent pharmacy including: healthcare policy; supply chain; business and reimbursement models and evolving practice models.

**Requisites:** Prerequisite, PY3 standing.

**PHCY 836. Prevention, Treatment, and Recovery of Substance Use Disorders. 1.5 Credit.**

There is a crippling opioid epidemic in the US stemming from decades of misguided approaches to addiction. This course addresses prevention, treatment, and recovery of substance use/misuse disorders, exploring addiction as a chronic brain disease with societal and economic factors contributing to development and progression.

**Requisites:** Prerequisite, PY3 standing.

**PHCY 837. Pharmacogenetics. 1.5 Credit.**

Pharmacogenetics covers the generation of pharmacogenetics data, the analysis of that data, and the development the reporting structure of gene/drug interactions. Students will investigate data analysis tools for pharmacogenetics, and review clinical outcomes data and clinical case studies.

**Requisites:** Prerequisite, PY3 standing.

**PHCY 839. Global and Rural Health: Maximizing Interprofessional Teams to Impact Patient Outcomes. 1 Credit.**

Global and rural health share public health approaches when identifying and implementing healthcare solutions. This course explores approaches, while engaging students in interprofessional, project-based learning. Students across multi-healthcare disciplines will explore cross-cultural communication, the social determinants of health, and service delivery in low resource settings.

**Requisites:** Prerequisite, PY2 or PY3 standing.

**PHCY 840. Health Policy and Managed Care. 3 Credits.**

This course is designed to expand students' understanding of health policy and managed care, with an emphasis on the intersection of these broad topics and the profession of pharmacy. As a result of this course, students will be well-prepared to enter careers in pharmacy for which knowledge of health policy and managed care is essential. These include professional advocacy, regulatory affairs, market access, and managed care.

**Requisites:** Prerequisite, PY3 Standing.

**PHCY 846. Perspectives in Mental Health. 2 Credits.**

This course is designed to meet the needs of pharmacy students interested in further developing their knowledge base in psychiatry and select neurology topics. Class sessions focus on choice and rationale for therapy, dosing guidelines, monitoring parameters for assessment of efficacy and toxicity, literature review, and application in clinical practice.

**Requisites:** Prerequisites, PY3 Standing.

**PHCY 886. Advanced Immersion Experience: Patient Care Elective I. 4 Credits.**

Prerequisite: PY4 Standing. The patient-focused elective provides students experience in a unique patient care practice environment. Students will utilize abilities learned previously in the curriculum in order to collect patient-specific information, evaluate and monitor drug therapy, educate patients and caregivers, respond to drug information inquiries and to meet site-specific objectives.

**PHCY 887. Advanced Immersion Experience: Patient Care Elective II. 4 Credits.**

Prerequisite: PY4 Standing. The patient-focused elective provides students experience in a unique patient care practice environment. Students will utilize abilities learned previously in the curriculum in order to collect patient-specific information, evaluate and monitor drug therapy, educate patients and caregivers, respond to drug information inquiries and to meet site-specific objectives.

**PHCY 888. Advanced Immersion Experience: Non-Patient Care Elective I. 4 Credits.**

The non-patient focused elective provides students experience in unique pharmacy practice environments such as health care related professional societies, pharmaceutical industry corporate headquarters or manufacturing facilities, the FDA, etc. Students will utilize abilities learned previously in the curriculum to meet general course and site specific objectives.

**Requisites:** Prerequisite, PY4 Standing.

**PHCY 889. Advanced Immersion Experience: Non-Patient Care Elective II. 4 Credits.**

The non-patient focused elective provides students experience in unique pharmacy practice environments such as health care related professional societies, pharmaceutical industry corporate headquarters or manufacturing facilities, the FDA, etc. Students will utilize abilities learned previously in the curriculum to meet general course and site specific objectives.

**Requisites:** Prerequisite, PY4 Standing.

**PHCY 891. Advanced Immersion Experience: Community. 4 Credits.**

This course builds on foundational knowledge and skills gained during previous Immersion Experiences. Students will engage in a systems-based approach to quality improvement processes, develop practice management skills related to the medication use process, and refine skills in applying a consistent approach to patient care.

**Requisites:** Prerequisite, PY4 Standing.

**PHCY 892. Advanced Immersion Experience: Health Systems. 4 Credits.**

This course builds on foundational knowledge and skills gained during previous Immersion Experiences. Students will engage in a systems-based approach to quality improvement processes, develop practice management skills related to the medication use process, and develop skills in pharmacy practice in a value-based health care system.

**Requisites:** Prerequisite, PY4 Standing.

**PHCY 893. Advanced Immersion Experience: Ambulatory Care. 4 Credits.**

This course builds on foundational knowledge and skills gained during previous Immersion Experiences. Students will refine skills in applying a consistent approach to patient care, as exemplified in the Pharmacists' Patient Care Process, by considering management of the entire patient or focusing on a single medical condition.

**Requisites:** Prerequisite, PY4 Standing.

**PHCY 894. Advanced Immersion Experience: General Medicine. 4 Credits.**

This course builds on foundational knowledge and skills gained during previous Immersion Experiences. Students will refine skills in applying a consistent approach to patient care, as exemplified in the Pharmacists' Patient Care Process, by considering management of the entire patient in an inpatient setting.

**Requisites:** Prerequisite, PY4 Standing.

**PHCY 895. Advanced Immersion Experience: Clinical I. 4 Credits.**

This course builds on foundational knowledge/skills gained during previous Immersion Experiences. Students will apply a consistent approach to patient care, as exemplified in the Pharmacists' Patient Care Process, by considering management of the entire patient or focusing on a single medical condition (inpatient or outpatient setting).

**Requisites:** Prerequisite, PY4 Standing.

**PHCY 896. Advanced Immersion Experience: Clinical II. 4 Credits.**

This course builds on foundational knowledge/skills gained during previous Immersion Experiences. Students will apply a consistent approach to patient care, as exemplified in the Pharmacists' Patient Care Process, by considering management of the entire patient or focusing on a single medical condition (inpatient or outpatient setting).

**Requisites:** Prerequisite, PY4 Standing.

**PHCY 897. Advanced Immersion Experience: Clinical III. 4 Credits.**

This course builds on foundational knowledge/skills gained during previous Immersion Experiences. Students will apply a consistent approach to patient care, as exemplified in the Pharmacists' Patient Care Process, by considering management of the entire patient or focusing on a single medical condition (inpatient or outpatient setting).

**Requisites:** Prerequisite, PY4 Standing.

**PHCY 898. Leading Change in Health Care I. 1 Credit.**

This course is designed to build from foundational knowledge/skills gained during previous Immersion Experiences and coursework. Student Pharmacists will demonstrate advanced skills in critical literature appraisal and presentation, apply quality improvement methodologies to problems in pharmacy, and demonstrate understanding of pharmacy administration and healthcare policy fundamentals.

**Requisites:** Prerequisite, PY4 Standing.

**PHCY 899. Leading Change in Health Care II. 1 Credit.**

This course is designed to build from foundational knowledge/skills gained during previous Immersion Experiences and coursework. Student Pharmacists will demonstrate advanced skills in critical literature appraisal and presentation, apply quality improvement methodologies to problems in pharmacy, and demonstrate understanding of pharmacy administration and healthcare policy fundamentals.

**Requisites:** Prerequisite, PY4 Standing.