

# PHARMACY (PHARMD)

The Doctor of Pharmacy (PharmD) is a four-year professional degree program that will prepare you for a variety of careers in the dynamic profession of pharmacy. From hospitals to pharmaceutical companies, we'll prepare you to work in a variety of healthcare settings as a medication expert who makes a difference in the lives of patients.

## Admissions Requirements

New students enter the program in the Fall. Candidates must submit their applications to PharmCAS **by June 1, 2025**, to create a PharmCAS account/application if they do not have one already. Candidates will need a PharmCAS application to be considered for admission. All application materials, including the application fee, must be received by the deadline. Late and/or incomplete applications will not be considered.

Applicants to the University of Colorado Skaggs School of Pharmacy are expected to conduct themselves within legal and ethical standards of behavior during the admission process. It is our goal to admit students with a high level of professionalism or professional potential.

You are responsible for properly completing your application, sending your supporting documentation and fees to PharmCAS and the School of Pharmacy on time, AND regularly checking the status of your file online by logging onto your PharmCAS web application. The admissions committee reserves the right to review each application on a case-by-case basis.

## Coursework

Please visit the Skaggs School of Pharmacy website (<https://pharmacy.cuanschutz.edu/academics/pharmd/admissions-information/>) to review required Pre Pharmacy Coursework.

Applicants to the University of Colorado School of Pharmacy must complete all prerequisites with a grade of C or higher (C- or below is not acceptable) at a college or university that is accredited by the North Central Association of Colleges or one of its regional affiliates. Applicants must complete all prerequisites by the end of the spring term prior to their first fall term in the School of Pharmacy. Science and Calculus prerequisite course work must have been completed within the last 10 years of the semester in which the applicant intends to enroll. We can offer prerequisites extensions into the summer semester in certain circumstances. Please contact us at [SOP.OSSAPPS@cuanschutz.edu](mailto:SOP.OSSAPPS@cuanschutz.edu) ([SOP.OSSApps@cuanschutz.edu](mailto:SOP.OSSApps@cuanschutz.edu)) for more information. In many cases, applicants can be admitted while they are completing the course work in the spring semester but the number of courses in progress may affect the decision of the admissions committee should there not be sufficient course work to evaluate.

## Transcripts

All transcripts must be submitted to PharmCAS regardless of the age or transferability of courses. The admissions committee considers all coursework completed and derives a cumulative GPA from all colleges and universities attended. Failure to reveal all transcripts will result in disqualification. Once admitted, official transcripts from all previous colleges and universities (including other University of Colorado campuses) attended must be submitted directly to the School of Pharmacy. All transcripts must be sent electronically through PharmCAS using the Academic Update process. Any transcripts sent after the

deadline in April will also be required to be submitted electronically to the Admissions Team.

## Application

Application to the Doctor of Pharmacy program is available through the Pharmacy College Application Service or PharmCAS (<http://www.pharmcas.org/>), a centralized application service to apply to multiple degree programs offered by schools and college of pharmacy. PharmCAS is designed for first-year professional PharmD degree programs.

## GPA

The average GPA of our admitted students is typically around 3.4. Competition is typically the strongest among out-of-state applicants.

## Recommendations

Two recommendation forms (<https://www.pharmcas.org/application-instructions/evaluations/>) are required as part of the PharmCAS application (<http://www.pharmcas.org/>). Letters submitted in lieu of completing the form will not be accepted. The applicant should seek recommendations attesting to his/her academic performance (academic recommendation) or on the applicant's professional skills and potential for success in a rigorous professional degree program (professional recommendation).

## Interview

### Interview Options

Qualified applicants will have the option to complete an On-Site or Virtual Interview, and if eligible, receive an offer of admission. Interviews start the beginning of Fall.

When a candidate meets the threshold to be invited for an interview, the school's admissions team will contact the candidate directly with a summary of available interview dates.

## Other Requirements

### English Proficiency

Excellent oral and written English communication skills are necessary prerequisites for admission to the school, success in the program and competent practice in the field of pharmacy. Applicants who meet one or more of the criteria in the review process will be required to take an evaluation of your English language proficiency. This will be completed via an Oral Proficiency Interview (OPIc) as part of the application process. The purpose of this computerized OPIc is to assess and rate a speaker's level of oral proficiency in English. Please be aware that for your application to continue through the admissions process, an OPIc is required. Aspects of this evaluation include pronunciation, grammar usage, and coherent discourse.

Due to the rigorous communicative demands of the PharmD program, the minimum English oral proficiency admission standard is "advanced low" according to the ACTFL Oral Proficiency Guidelines for Speaking. Applicants rated at an oral proficiency level below "advanced low" via the OPIc are disqualified from the pool of applicants considered for admission.

### Confirmation Deposit

Approximately two weeks after receiving a letter of acceptance, applicants must submit a \$200 initial confirmation deposit to hold their position in the entering class. By March 1, an additional \$200

confirmation deposit will be required. (After March 1, the total admission deposit will be \$400). This deposit will be credited after the first semester of matriculation.

### Criminal Background Check

Each admitted student must submit to a national background check on upon initial, conditional acceptance to pharmacy school. The rationale for performing criminal background checks on accepted pharmacy school applicants is based on a number of issues, including 1) the need to enhance the safety and well-being of patients and, in so doing, to bolster the public's continuing trust in the pharmacy profession, 2) to ascertain the ability of accepted applicants to complete their pharmacy education (students are required to maintain a State of Colorado pharmacy intern license while participating in the pharmacy curriculum which includes direct patient care activities) and to eventually become licensed pharmacists.

In support of this recommendation, AACP has initiated a PharmCAS-facilitated national background check service, through which Certiphi Screening, Inc. (a Vertical Screen® Company) will procure a national background report on applicants at the point of acceptance. AACP has initiated this service in order to recognize the desire of pharmacy schools to procure appropriate national criminal history reports and to prevent applicants from paying additional fees at each pharmacy school to which they are accepted.

### Drug Testing

All matriculated students are also required to undergo drug testing and you will receive further information regarding this requirement after you are enrolled in the program.

### Correspondence Methods During the Admissions Cycle

The School of Pharmacy reserves the right to choose to correspond with our applicants via e-mail, phone or by U.S. Postal Services. It is incumbent upon the applicant to ensure a current email, phone and postal address are currently on file. The School of Pharmacy cannot be held accountable if the candidate does not receive or respond to application or admission related correspondence.

E-mail messages generated by the School of Pharmacy and related services may be sent simultaneously to multiple applicants. To avoid missing important e-mails, turn the "Spam" or "junk" email filters off during the application cycle or periodically check your Spam/junk e-mail file for the School of Pharmacy related messages.

### PCAT not Required

The PCAT is not required. If the PCAT (or MCAT) is submitted, it will be considered supplementary information only.

### International Applicants and Applicants with Previous Degrees

Please visit the Skaggs School of Pharmacy website (<https://pharmacy.cuanschutz.edu/academics/pharmd/admissions-information/#international>) for more information on Foreign Transcripts, International Applicants, and Applicants with previous degrees.

### Computer requirements for PharmD students

## Degree Requirements

The minimum professional GPA required of all pharmacy students for graduation is 2.0 (C) based upon all didactic coursework in the

program. A passing grade is required for all advanced pharmacy practice experiences in the P4 year.

### Year 1

Fall		Hours
PHRD 5020	Rx Essentials: Introduction to Calculations and Medical Terminology	1
PHRD 5025	Applied Biological Chemistry	2
PHRD 5055	Pharmacy Practice Fundamentals & Drug Information	4
PHRD 5925	Pharmaceutics	4
PHRD 5075	Self-Care and Nonprescription Medications	4
<b>Hours</b>		<b>15</b>

### Spring

PHRD 5010	IPPE Community	2
PHRD 5920	Medicinal Chemistry	3
PHRD 5935	Pharmacology & Toxicology	4
PHRD 5965	Patient-Centered Communication	4
PHRD 5985	Pharmacotherapy 1	4
IPCP 5000	Interprofessional Collaborative Practice	1
<b>Hours</b>		<b>18</b>

### Year 2

Fall		
PHRD 6015	Clinical Pharmacokinetics	3
PHRD 6065	Evidence-based Medicine & Literature Evaluation	3
PHRD 6085	Pharmacotherapy 2	5
PHRD 6095	Pharmacotherapy 3	4
IPHE 6000	IPE Healthcare Ethics & Health Equity	1
<b>Hours</b>		<b>16</b>

### Spring

PHRD 6910	IPPE Health System	2
PHRD 6945	Public Health & Health Outcomes	3
PHRD 6965	Clinical Problem Solving Skills	2
PHRD 6985	Pharmacotherapy 4	5
PHRD 6995	Pharmacotherapy 5	4
<b>Hours</b>		<b>16</b>

### Year 3

Fall		
PHRD 7015	Seminar Research	1
PHRD 7025	Pharmacogenomics	2
PHRD 7055	Pharmacy Management	2
PHRD 7085	Pharmacotherapy 6	4
PHRD 7095	Pharmacotherapy 7	3
<b>Hours</b>		<b>12</b>

### Spring

PHRD 7905	Advanced IPPE	6
PHRD 7945	Pharmacy Law and Regulatory Standards	3
PHRD 7995	Clinical Capstone	6

You are required to take at least one of the below elective courses

PHRD 7830	Infectious Diseases Elective	2
PHRD 7835	Advanced Cardiovascular Pharmacotherapy	2

PHRD 7850	Geriatric Pharmacy Elective	2
PHRD 7882	Drugs of Abuse	2
PHRD 7885	Acute Care Pharmacotherapy	2
PHRD 7890	Advanced Oncology Pharmacy	2
<b>Hours</b>		<b>27</b>

**Year 4****Summer**

During your P4 year you must complete 7 rotations across the 3 semesters. Three rotations are required for PHRD 8055 and two rotations are required for PHRD 8085. The other courses require one rotation.

PHRD 8055	AdvPharPracExp - Elective	6
PHRD 8065	AdvPharPracExp - Ambulatory Care	6
PHRD 8075	AdvPharPracExp - Community	6
PHRD 8085	AdvPharPracExp - Hospital/Health-System Pharmacy	6
<b>Hours</b>		<b>24</b>
<b>Total Hours</b>		<b>128</b>

Choose 4 credits from the following elective courses. These are normally taken in the P2 year or P3 fall semester. Please note that actual offering may vary; contact the program to verify specific courses and registration restrictions.

<b>Code</b>	<b>Title</b>	<b>Hours</b>
<b>Electives</b>		
PHRD 7808	Introduction to the Pharmaceutical Industry	2
PHRD 7810	Applied Pharmaceutical Outcomes Research Methods	2
PHRD 7812	Seminar in Pharmaceutical Sciences	2
PHRD 7815	Physical Assessment/Examination in Pharmacy	2
PHRD 7828	Advanced Diabetes Management	2
PHRD 7842	Medical Use of Cannabis	2
PHRD 7844	Special Topics in Compounding	2
PHRD 7857	Compounding Pharmacy Elective	2
PHRD 7860	Special Topics in Integrated Health & Medicine	2
PHRD 7870	Pediatric Pharm Practice	2
PHRD 7895	Beginning Medical Spanish	2
PHRD 7896	Intermediate Med Spanish	2

## PharmD Graduation Information

### Graduation Requirements

- Be a registered as a pharmacy intern in good standing
- Earn a minimum GPA of 2.0 based on all didactic coursework
- Pass all core courses. Complete a minimum of 8 elective credit hours, in 4 different courses, of which 2 credit hours must be "P3 only" electives offered in P3 Spring Semester.
- Complete all IPPEs and APPEs with a grade of C or better
- Complete all Co-Curriculum requirements
- Complete the APhA pharmacy based immunization certificate program
- Maintain good professional conduct, meeting the technical standards of the program
- Owe no outstanding fees

### Graduation Ceremony Information

The commencement ceremony that includes all schools is held in the quadrangle at the Anschutz Medical Campus. A separate, smaller convocation ceremony for CU Pharmacy graduates and their families follows in the Library Commons. Information regarding cap and gown rentals, ordering of announcements, and schedules will be distributed during the spring as the graduation date approaches.

### Applying for the NAPLEX

#### Preparing to register and sit for the NAPLEX

Before you get started, download the NAPLEX/MPJE Registration Bulletin (<https://nabp.pharmacy/programs/examinations/naplex/>). It contains everything you need to know about the exam, such as:

- The registration process
- Testing appointment instructions
- What you'll see on the exams
- How to get your score report

Be sure to download the Registration Bulletin only from this website (<https://nabp.pharmacy/programs/examinations/naplex/>) to get the most accurate, updated information about the NAPLEX. NABP is aware of some websites that are posting fake, outdated, or incorrect registration bulletins.

#### Register for the NAPLEX

Ready to register for the test? Start out by logging into your NABP e-Profile to register online for the examination. The board of pharmacy in the state for which you are seeking licensure will then determine your eligibility to take the NAPLEX based upon the information you provided in your record. Check with your board of pharmacy (<https://nabp.pharmacy/about/boards-of-pharmacy/>) to make sure you meet their requirements. If you plan to seek licensure in multiple states, don't forget to utilize the Score Transfer (<http://nabp.pharmacy/programs/naplex/score-transfers/>) option.

When you log into your e-Profile, be sure to check that the name in your e-Profile matches the printed name on both the primary and secondary forms of ID that you will bring to the test center to ensure that you are not turned away on the day of the test. See the Important Test Day Information section below or the NAPLEX/MPJE Registration Bulletin for more information.

#### Military Discount

NABP offers one-time discounts for military members and their spouses. Active military members, reserves, and veterans will be reimbursed for 100% of the registration fee, and their spouses will be reimbursed for 50% of the fee. Reimbursement of examination registration fees apply to a single attempt on the NAPLEX. Fees for repeat attempts will not be reimbursed. To learn more, contact Customer Service (<https://nabp.pharmacy/about/contact/>).

#### If you are seeking licensure in Colorado, Kentucky, Maine, Michigan, Nebraska, Oregon, Rhode Island, and/or Utah

NABP confirms eligibility to sit for the NAPLEX and MPJE for candidates seeking licensure in the above listed states. If you are seeking licensure for any of these jurisdictions, including via score transfers, you will need to pay an additional non-refundable processing fee of \$85. This fee covers both the NAPLEX and MPJE and is valid for a one-year period starting with the date of the initial application.

If you have not passed your exam within that one-year period, you will forfeit the processing fee and will be required to submit a new processing fee if you wish to still take the exam(s).

If you are a new graduate seeking initial licensure in one of the above listed states, you must have an official transcript sent directly from your pharmacy school to NABP before beginning the NAPLEX/MPJE application process. Candidates applying for licensure in Oregon must also submit an official transcript to the Oregon State Board of Pharmacy. Official transcripts must be in a sealed envelope bearing the school's stamp/seal on the envelope flap. Candidates may request that their school send transcripts electronically to [transcripts@nabp.pharmacy](mailto:transcripts@nabp.pharmacy) (transcripts@nabp.pharmacy).

### Licensure and Testing

Information regarding licensure and testing can be found at the Colorado State Board of Pharmacy site (<http://www.dora.state.co.us/pharmacy/>). If you are applying for licensure in another state, you will need to check that specific state's board of pharmacy website for their requirements.

### Diploma

Graduating students must apply for their diploma by December of their P4 year. Information will be e-mailed directly to you.

## Student Learning Outcomes

### MISSION

The purpose of the curriculum is to prepare graduates to be competent, ethical, contemporary and compassionate entry-level pharmacists. They will be committed to active involvement in the advancement of the pharmacy profession and dedicated to fulfilling the public trust by assuming responsibility for optimizing patient care through provision of appropriate drug therapy and by assuring the safe, effective and efficient use of drug products and drug delivery systems.

### Patient Centered Care Process

- **Patient Care:** The graduate will provide patient care in cooperation with patients and other members of an inter-professional health care team based upon sound therapeutic principles and evidence-based data, taking into account relevant legal, ethical, social, cultural, economic, and professional issues, emerging technologies, and evolving biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences that may impact therapeutic outcomes. Our graduates are experts in the pharmacists' patient care process.
- **Systems Management:** The graduate will manage and use resources of the health care system, in cooperation with patients, other health care providers, and support personnel, to promote health; to provide, assess, and manage safe, accurate, and time-sensitive medication distribution; and to improve therapeutic outcomes. The graduate must demonstrate expertise in informatics.
- **Public Health:** The graduate will promote health improvement, wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an inter-professional team of health care professionals.
- **Professionalism and Communication Skills:** The graduate will exhibit effective communication skills, professional behaviors and attitudes that promote successful patient and professional interactions. They must bring to the practice of pharmacy the necessary values,

attitudes, and behaviors to discern and manage ethical and evolving issues of pharmacy practice.

- **Scholarship:** The graduate will exhibit intellectual curiosity by approaching problems from a scholarly perspective, applying scientific principles and methods to identify and solve problems.

## Courses

### PHRD 5010 - IPPE Community (2 Credits)

This is the first in a series of experiential-based courses, providing 80 hours of community pharmacy practice experience. Students will participate in all facets of community pharmacy practice, with a particular focus on the development of communication and professionalism skills.

Grading Basis: Letter Grade with IP

Typically Offered: Spring.

### PHRD 5020 - Rx Essentials: Introduction to Calculations and Medical Terminology (1 Credit)

This intensive 1-week course is designed to provide PharmD students with a comprehensive review of prerequisite mathematics skills essential for pharmaceutical calculations, along with an introduction to calculations and medical terminology and abbreviations commonly used in pharmacy practice.

Grading Basis: Satisfactory/Unsatisfactory w/IP

Typically Offered: Fall.

### PHRD 5025 - Applied Biological Chemistry (2 Credits)

Course builds upon student knowledge of biochemistry to explore applications of biochemistry to diseases, drug actions, and drug development. Knowledge gained from this course is used as a foundation for understanding the rationale for the therapeutic uses of drugs.

Grading Basis: Letter Grade

Typically Offered: Fall.

### PHRD 5055 - Pharmacy Practice Fundamentals & Drug Information (3 Credits)

Course provides students with tactics necessary to perform dispensing duties in most pharmacy settings. Fundamentals of the practice of drug information are introduced. Pharmacy practice and drug information fundamentals are presented with the context of the history of pharmacy and contemporary pharmacy practice. Restrictions: Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

### PHRD 5075 - Self-Care and Nonprescription Medications (4 Credits)

Course prepares students to be able to 1) collect appropriate patient data to make an assessment for self-care (e.g. nonprescription products), 2) conduct a patient-centered assessment, and 3) design, implement, evaluate and adjust a patient-centered self-care plan. Restriction: Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

### PHRD 5920 - Medicinal Chemistry (3 Credits)

This course explores medicinal chemistry concepts using clinically relevant case studies, designed to examine mechanism(s) of drug action, structure-activity relationships, drug metabolism, drug resistance and other concepts related to the pharmacology and clinical use of therapeutic drugs.

Grading Basis: Letter Grade

Typically Offered: Spring.



**PHRD 5925 - Pharmaceutics (4 Credits)**

Students introduced to biophysical and chemical considerations in development of pharmaceutics and products and compounding various dosage forms, principles of parenteral drug preparation and administrations. Knowledge gained allows students to understand formulation development and optimize dosage forms for individual patients. Department consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 5935 - Pharmacology & Toxicology (4 Credits)**

Using the nervous systems as a model, the course introduces students to the mechanisms by which drugs produce therapeutic effects and side effects. The mechanisms of drug toxicity and how toxicity can be prevented and treated will be explored. Department consent required.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 5965 - Patient-Centered Communication (4 Credits)**

Students develop skills to communicate effectively with patients, caregivers and healthcare providers to facilitate optimal patient outcomes. These courses cover all aspects of professional communication, including gathering, organizing, conveying and documenting patient-related information.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 5985 - Pharmacotherapy 1 (4 Credits)**

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: pulmonology, OB/GYN, ED, dermatology ophthalmology, otic diseases. Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 6015 - Clinical Pharmacokinetics (3 Credits)**

The influence of physiological and pathophysiological factors on drug levels is considered. Knowledge gained allows students to calculate appropriate dosing of drugs in patients and anticipate how drug doses should be adjusted in disease and the presence of other drugs. Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 6065 - Evidence-based Medicine & Literature Evaluation (3 Credits)**

An introduction and step-wise approach to evidence-based medicine. Students understand commonly-used statistical tests and evaluate statistical results for statistical versus clinical significance. Students demonstrate by answering short drug information questions, presenting a journal club and writing a drug information paper. Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 6085 - Pharmacotherapy 2 (5 Credits)**

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: Cardiology. Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 6095 - Pharmacotherapy 3 (4 Credits)**

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: endocrinology, renal. Department Consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 6910 - IPPE Health System (2 Credits)**

This experiential-based course provides 80 hours of health-system pharmacy practice, focusing on the delivery of patient care and systems used to provide care to multiple patients. Course further develops professionalism, communication, and skills needed for advanced experiential training.

Grading Basis: Letter Grade with IP

Typically Offered: Spring.

**PHRD 6945 - Public Health & Health Outcomes (3 Credits)**

This course in public health will cover how to use clinical, patient-centered, socioeconomic, and economic research to assess health care interventions. These skills can be used to critically assess health care policy that will affect you as a professional pharmacist. Restriction:

Department Consent Required

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 6965 - Clinical Problem Solving Skills (2 Credits)**

This course builds upon the principles and skills from PHRD 5055/6065 and includes application inside and outside the classroom of drug information, effective search strategies and literature evaluation, critical appraisal of scientific literature, and applying evidence in clinical practice.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 6985 - Pharmacotherapy 4 (5 Credits)**

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: infectious diseases. Restriction: Department Consent Required

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 6995 - Pharmacotherapy 5 (4 Credits)**

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: psychiatry, neurology. Restriction: Department Consent Required

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 7015 - Seminar Research (1 Credit)**

Students will apply their ability to retrieve, evaluate, and utilize professional information in a critical and scientific manner. Students independently determine how to best solve a pharmacy-related question using scientific principles, and present their findings to a large audience. Department consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 7025 - Pharmacogenomics (2 Credits)**

Course provides students with an understanding of how genetic factors influence drug efficacy. Knowledge gained from this course enhances students' ability to select the most effective therapeutic intervention.

Department consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 7055 - Pharmacy Management (2 Credits)**

The course provides an introduction to management in community pharmacy practice, hospital pharmacy management, and other business and management skills needed to be successful in a variety of different practice settings. Department consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 7085 - Pharmacotherapy 6 (4 Credits)**

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions.

Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: Immunology, gastro intestinal, rheumatology, transplantation, osteoporosis. Department consent required.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 7095 - Pharmacotherapy 7 (3 Credits)**

This 7 course series includes pathophysiology, pharmacology, and therapeutics of a range of system based physiological conditions. Standards of care, controversial issues, pharmacotherapy advances, and patient management are covered. Areas covered in this course: oncology.

Department consent required

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 7808 - Introduction to the Pharmaceutical Industry (2 Credits)**

Course provides a broad background on the pharmaceutical industry. Reviews of major pharmaceutical company functions will be covered, Emphasis will be placed on clinical development and areas of opportunity for those with a pharmacy or pharmaceutical sciences background.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 7810 - Applied Pharmaceutical Outcomes Research Methods (2 Credits)**

Students completing this course will be able to identify and write a clinical research question; identify variables for analyses; complete intermediate statistical analyses to answer their research question; write-up their study as a scientific manuscript; and present their research orally.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 7812 - Seminar in Pharmaceutical Sciences (2 Credits)**

Provides practical experience in the evaluation and discussion of research literature. Students will prepare a seminar and participate in scientific discussions. Students who are interested in broadening knowledge in pharmaceutical science, drug delivery, and improving their speaking skills will benefit.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring.

**PHRD 7815 - Physical Assessment/Examination in Pharmacy (2 Credits)**

This course is designed to provide students with functional knowledge and skills in the area of physical assessment and will aid students in enhancing the assessment of disease and drug therapy in a variety of practice settings.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 7828 - Advanced Diabetes Management (2 Credits)**

This elective focuses on advanced diabetes management and utilization of technology and digital health tools. The course provides learners hands-on, simulated experiences with diabetes technology and digital health tools to successfully optimize diabetes care and make clinical decisions remotely.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 7830 - Infectious Diseases Elective (2 Credits)**

This course will address the pharmacology and appropriate clinical use of agents used in the treatment and management of selected infectious diseases. The course will also focus on pharmacodynamics of antimicrobial agents, antibiotic stewardship, antibiotic resistance, and statistics.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 7835 - Advanced Cardiovascular Pharmacotherapy (2 Credits)**

The purpose of this course is to provide a more comprehensive and in-depth background in cardiovascular pharmacotherapy for students interested in, or planning to practice in, settings where the care of patients with cardiovascular disease is emphasized.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring.

**PHRD 7842 - Medical Use of Cannabis (2 Credits)**

Course will address the pharmacology and appropriate medical use of cannabis used in the treatment and management of selected disease states. Course will also focus on the pharmacokinetics, pharmacodynamics, legal aspects, special populations and patient information (safety) of cannabis.

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 7844 - Special Topics in Compounding (2 Credits)**

Course will provide students with an understanding of principles and practices involved in clinical aspects of pharmacy compounding. Students will utilize readings, case studies, class discussion, outside-class assignments, and written evaluation to learn how pharmacy compounding may solve medication-related problems. Department Consent Required

Grading Basis: Letter Grade

Typically Offered: Fall.

**PHRD 7850 - Geriatric Pharmacy Elective (2 Credits)**

This course is intended to provide the student with an advanced understanding of pharmacotherapy in older adults as well as common medical, psychological, and social issues encountered when caring for older adults. Prerequisite: P3 status.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 7855 - Independent Study (1-4 Credits)**

Independent Study Prerequisite: P3 status. Per Department Chair approval.

Grading Basis: Satisfactory/Unsatisfactory w/IP

Repeatable. Max Credits: 4.

Typically Offered: Fall, Spring.

**PHRD 7856 - Independent Study (2 Credits)**

Prerequisites: P3 status. Per Curriculum Committee approval.

Grading Basis: Satisfactory/Unsatisfactory

Typically Offered: Fall, Spring.

**PHRD 7857 - Compounding Pharmacy Elective (2 Credits)**

An elective course to offer compounding skills for pharmacy students.

Prereq: P1-P3 status.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 7860 - Special Topics in Integrated Health & Medicine (2 Credits)**

This course is designed to develop a broad knowledge base in the field of Integrated Health and Medicine. This course will cover common vitamins and minerals, herbal products, and bio-identical hormones, and core domains and discussions of regulatory issues. Prerequisite: P1-P3 status.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring.

**PHRD 7870 - Pediatric Pharm Practice (2 Credits)**

This course will be offered to students interested in developing and fostering their knowledge and assessment of childhood diseases and pharmacotherapy. Clinical pharmacy specialists and staff from the Children's Hospital of Denver will teach this course. Prerequisite: P3 status.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 7876 - Advanced Psychiatric Pharmacy (2 Credits)**

This course is designed to advance knowledge of the care and management of patients with various psychiatric conditions. Students will gain experience with clinical, social, economic, and ethical aspects of psychiatric care through a variety of didactic, case-based, and simulated activities.

Grading Basis: Letter Grade with IP

Typically Offered: Fall.

**PHRD 7882 - Drugs of Abuse (2 Credits)**

Course will explain pharmacological, physical, and psychological effects of drugs of abuse on the body relevant to real-world pharmacy practice. Course aims to develop clinical skills for use in emergency situations, proper prescribing of drugs of abuse, and understanding of the process of addiction/abuse in order to identify and mitigate potential harm.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 7885 - Acute Care Pharmacotherapy (2 Credits)**

Pharmacology and appropriate clinical use of agents used in the treatment of selected acute disorders found in hospitalized patients. The course will also focus on the comprehensive nature of these acute disorders. Recent advances in pharmacotherapy, patient-specific management strategies, and controversial issues will be included and emphasized. Prerequisite: P3 status.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 7890 - Advanced Oncology Pharmacy (2 Credits)**

Students will learn pathophysiology and treatment of solid organ and hematologic malignancies, practical use of antineoplastic agents, and provision of supportive care for patients of cancer. Prerequisite: PHRD 6750.

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 7895 - Beginning Medical Spanish (2 Credits)**

This Beginning Medical Spanish course, tailored for pharmacy students, is designed to allow students to become comfortable with conversational Spanish and medical vocabulary in various pharmaceutical contexts. Language learning is both academic and experiential. Prerequisite: P3 status.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring.

**PHRD 7896 - Intermediate Med Spanish (2 Credits)**

This intermediate medical Spanish course, tailored for pharmacy students, is designed to allow students to become comfortable with intermediate conversational Spanish and medical vocabulary in various pharmaceutical context. Language learning is both academic and experiential. Prerequisite: P3 status.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring, Summer.

**PHRD 7905 - Advanced IPPE (6 Credits)**

Students are placed in a 6-week, full-time (40 hours per week) patient care experience in which they can begin to apply their didactic knowledge. In this advanced IPPE students demonstrate competency to meet pre-APPE core performance domains and abilities. Requirements: Department consent required

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 7945 - Pharmacy Law and Regulatory Standards (3 Credits)**

Course explores pharmacy laws and regulations. Students are able to carry out their intern duties in accordance with professional guidelines and regulatory standards. The course also explores how to apply ethical and professional principles in various healthcare settings.

Grading Basis: Letter Grade with IP

Typically Offered: Spring.

**PHRD 7995 - Clinical Capstone (6 Credits)**

Course is designed to be a capstone that integrates essential core pharmacy practice topics. The philosophy of this course is to facilitate student learning, and holding students accountable for prior learning in an integrated manner using complex patient scenarios. Requirements: Department Consent required

Grading Basis: Letter Grade

Typically Offered: Spring.

**PHRD 8055 - AdvPharPracExp - Elective (6 Credits)**

Six week rotation; 40 hrs weekly. This experience will take place in various practice settings. Students may participate in various activities that focus on medication-related problems dealing with various populations, with or without direct patient contact. Requirement: Department consent required

Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 6.

Typically Offered: Fall, Spring, Summer.

PHRD 8056 - APPE Elective International (6 Credits)

Six week rotation; 40 hrs weekly. This pharmacy practice experience is an opportunity for students to train in various international clinical practice environments.

Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 12.

Typically Offered: Fall, Spring, Summer.

PHRD 8065 - AdvPharPracExp - Ambulatory Care (6 Credits)

Six week rotation; 40 hrs weekly. This experience will take place in an ambulatory care, multidisciplinary practice setting. Practice sites may include hospital-based clinics, physician group practices, and community or public health clinics that provide health care directly to patients.

Requirement: Department consent required.

Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 6.

Typically Offered: Fall, Spring, Summer.

PHRD 8075 - AdvPharPracExp - Community (6 Credits)

Six week rotation; 40 hrs weekly. This experience will take place in a community pharmacy practice setting. Practice sites include independent, large chain or retail pharmacies that provide a variety of services, including administration of immunizations and health/wellness screenings. Requirement: Department Consent required

Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 6.

Typically Offered: Fall, Spring, Summer.

PHRD 8085 - AdvPharPracExp - Hospital/Health-System Pharmacy (6 Credits)

Six week rotation; 40 hrs weekly. This experience will take place in an inpatient practice setting. Students will be exposed to adult patients with a variety of disease states, and participate in other institutional activities related to clinical pharmacy services. Requirement: Department consent required

Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 6.

Typically Offered: Fall, Spring, Summer.

## Student Policies

For policy information, please visit the PharmD Student Policies page (<https://pharmacy.cuanschutz.edu/current-students/on-campus-pharmd-students/pharmd-resources/#policies>).