

# PHARMACY (PHAR)

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## **PHAR 110N - Use & Abuse of Drugs. 3 Credits.**

Offered autumn and spring. Drug dependence and abuse.  
Gen Ed Attributes: Natural Science

## **PHAR 191 - Special Topics. 1-6 Credits.**

(R-16) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.

## **PHAR 192 - Independent Study. 1-6 Credits.**

(R-6) Offered at Missoula College. Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

## **PHAR 198 - Internship. 1-6 Credits.**

(R-6) Registration requires consent of faculty supervisor. Extended classroom experience which provides practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

## **PHAR 300 - Pharmacy Practice I. 4 Credits.**

Offered autumn. Prereq., M 162 and admission to the professional pharmacy program. Coreq., PHAR 360. An introduction to the prescription and pharmaceutical calculations and to the role of the pharmacist in systems involved in health care delivery.

## **PHAR 310 - Pharmacy Practice II. 2 Credits.**

Offered spring. Prereq., PHAR 300. Federal and state laws and regulations pertaining to pharmacy practice. Introductory dispensing laboratory.

## **PHAR 311 - Healthy People. 1 Credit.**

Offered spring. Prereq., first professional year standing in pharmacy. Determinants of health, teamwork, communication, reflection, and self- and peer-assessment methods are explored in the classroom, through writings, and team projects in the community.

## **PHAR 320 - American Indian Health Issues. 3 Credits.**

Offered spring. An overview of the health issues, health care delivery, health disparities, and social determinants of health that impact American Indians. Also, provides an overview in careers in health and cultural awareness for students.

## **PHAR 322 - Ayurvedic Medicine. 1 Credit.**

Ayurveda is an ancient East Indian tradition of health and healing that involves diet, lifestyle, and herbal supplements. This course will focus on understanding the basic principles of Ayurveda in terms of Dosha, diet, lifestyle, herbs, body therapies, and the disease process. Students will create an individualized lifestyle plan focusing on diet and lifestyle aimed to improve health and well-being.

## **PHAR 324 - Medicinal Plants. 2-3 Credits.**

Offered autumn. Plants and other natural substances which nourish, heal, injure, or alter the conscious mind.

## **PHAR 329 - Microbes & Medicines. 4 Credits.**

Offered spring. Prereq., first professional year standing in pharmacy. Microorganisms that cause disease in humans plus the chemical characteristics, biochemical mechanisms, and pharmacological properties of drugs used in treating infections caused by microorganisms.

## **PHAR 331 - Pharmaceutics. 4 Credits.**

Offered spring. Prereq., first professional year standing. Physical pharmacy and dosage forms.

## **PHAR 341 - Pharmaceutical Pathophysiology I. 4 Credits.**

Offered autumn. Prereq., first professional year standing in pharmacy. Principles of anatomy, normal and abnormal physiology.

## **PHAR 342 - Pharmaceutical Pathophysiology II. 4 Credits.**

Offered spring. Prereq., PHAR 341. Continuation of 341.

## **PHAR 350 - Introduction to Drug Information. 1 Credit.**

Offered autumn. Prereq., WRIT 101 or equivalent. Restricted to students in Pharmacy. Introduction to sources of drug information and the use of medical literature and clinical guidelines to respond to drug information requests from patients and healthcare providers.  
Gen Ed Attributes: Writing in the Disciplines

## **PHAR 360 - Pharmacy Practice Lab I. 1 Credit.**

Offered autumn. Prereq., first professional year standing and coreq., PHAR 300. This lab is designed to introduce the student to the technical and legal aspects of drug dispensing, prescription and OTC drug counseling, and sterile intravenous (IV) admixture in a simulated pharmacy environment.

## **PHAR 361 - Pharmaceutical Science Lab I. 1 Credit.**

Offered autumn. Prereq., first professional year standing and coreq., PHAR 300, PHAR 341. Laboratory experience in the pharmaceutical sciences.

## **PHAR 362 - Pharmaceutical Science Lab II. 1 Credit.**

Offered spring. Prereq., PHAR 361 and Coreq., PHAR 331 and 342. Continuation of 361.

## **PHAR 371 - Integrated Studies I. 1 Credit.**

Offered autumn. Prereq., first professional year standing in pharmacy. Small group conferences designed to develop professional skills while integrating material from other pharmacy courses.

## **PHAR 372 - Integrated Studies II. 1 Credit.**

Offered spring. Prereq., PHAR 371. Continuation of 371.

## **PHAR 381 - Pharmaceutical Biochemistry. 4 Credits.**

Offered autumn. Prereq., first professional year standing. Fundamental biochemistry from a pharmaceutical sciences perspective; management of genetic information, molecular structure and function, and metabolic reactions, especially as relating to drug actions and targets.

## **PHAR 390 - Undergraduate Research. 1-3 Credits.**

(R-6) Offered autumn and spring. Prereq., consent of instr. Individual participation in library or laboratory research.

## **PHAR 391 - Special Topics. 1-9 Credits.**

(R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

## **PHAR 392 - Independent Study. 1-3 Credits.**

**PHAR 395 - Pharmacy Practicum. 1-2 Credits.**  
(R-3) Offered autumn and spring. Prereq., PHAR 300. Supervised professional experience in the Student Health Service Pharmacy.

## **PHAR 412 - Pharmacy Practice III. 2 Credits.**

Offered spring. Prereq., second professional year standing. The social, behavioral, cultural, and literacy factors involved in professional communication and patient care. Level: Undergraduate

## **PHAR 421 - Medicinal Chemistry I. 3 Credits.**

Offered autumn. Prereq., second professional year standing or consent of instr. The chemistry of organic compounds used medicinally and their biochemical mechanisms of action. Level: Undergraduate-Graduate

**PHAR 422 - Medicinal Chemistry II. 3 Credits.**

Offered spring. Prereq., PHAR 421. Continuation of 421. Level: Undergraduate-Graduate

**PHAR 430 - Pharmacogenetics. 2 Credits.**

Offered each semester. Prereq., PHAR 341 and PHAR 381. The genetic basis of differential drug activity. Level: Undergraduate

**PHAR 432 - Clinical Pharmacokinetics. 3 Credits.**

Offered autumn. Prereq., second professional year standing. Principles of pharmacokinetics including the processes of ADME (absorption, distribution, metabolism, and elimination) and applications in the clinical setting. Level: Undergraduate

**PHAR 443 - Pharmacology & Toxicology I. 4 Credits.**

Offered autumn. Prereq., second professional year standing or consent of instr. Basic principles of pharmacology, toxicology and therapeutics. Level: Undergraduate-Graduate

**PHAR 444 - Pharmacology & Toxicology II. 4 Credits.**

Offered spring. Prereq., PHAR 443. Continuation of PHAR 443. Level: Undergraduate-Graduate

**PHAR 451 - Therapeutics I. 3 Credits.**

Offered autumn. Prereq., second professional year standing; PHAR 329, PHAR 331, PHAR 342, PHAR 381. Coreq., PHAR 471. Pharmacotherapeutics of common disease states emphasizing pathophysiology and the selection, monitoring, and individualization of drug therapy. Applies the basic pharmaceutical sciences to patient care. Level: Undergraduate-Graduate

**PHAR 452 - Therapeutics II. 3 Credits.**

Offered spring. Prereq., PHAR 451; coreq., PHAR 472; prereq. or coreq., PHAR 422, PHAR 432 and PHAR 444. Pharmacotherapeutics of common disease states emphasizing pathophysiology and the selection, monitoring, and individualization of drug therapy. Applies the basic pharmaceutical sciences to patient care. Level: Undergraduate-Graduate

**PHAR 460 - Pharmaceutical Care Lab II. 1 Credit.**

Offered autumn. Prereq., second professional year standing, PHAR 310. Introduction to parenteral practice application, applied patient interview assessment, and communication skills for practice. Level: Undergraduate-Graduate

**PHAR 463 - Pharmaceutical Care Lab III. 1 Credit.**

Offered spring. Prereq., PHAR 460. Coreq. PHAR 412. Practice counseling and patient-care skills with emphasis on non-prescription drugs and devices. Includes individual in-service presentations. Level: Undergraduate-Graduate

**PHAR 471 - Integrated Studies III. 1 Credit.**

Offered autumn. Prereq., second professional year standing in pharmacy. Coreq., PHAR 451. Small group conferences designed to develop professional skills while integrating material from first and second year professional pharmacy courses. Level: Undergraduate

**PHAR 472 - Integrated Studies IV. 1 Credit.**

Offered spring. Prereq., PHAR 471. Coreq., PHAR 452. Continuation of 471. Offered for CR/NCR only. Level: Undergraduate

**PHAR 480 - Community Pharmacy IPPE. 3 Credits.**

(R-6) Offered every term. Prereq., completion of first professional year. Supervised professional experience in community pharmacy. Level: Undergraduate

**PHAR 481 - Hospital Pharmacy IPPE. 3 Credits.**

(R-6) Offered every term. Prereq., completion of first professional year. Supervised professional experience in a hospital pharmacy. Level: Undergraduate

**PHAR 484 - Introduction to Toxicology. 3 Credits.**

Offered autumn. Prereq., Biology, Chemistry, and Biochemistry; or consent of instr. Online. Introduction to environmental health and the principles of toxicology, including human toxic substance exposure, processing of toxic substances and the impact on cells and tissues including genetic and epigenetic factors. Graduate increment includes design of a research study in toxicology and leading class. Level: Undergraduate-Graduate

**PHAR 490 - Undergraduate Research. 1-3 Credits.**

(R-6) Offered autumn and spring. Prereq., consent of instr. Individual participation in library or laboratory research. Level: Undergraduate

**PHAR 491 - Special Topics. 1-9 Credits.**

(R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Undergraduate-Graduate

**PHAR 492 - Independent Study. 1-9 Credits.**

(R-9) Course material appropriate to the needs and objectives of the individual student. Level: Undergraduate

**PHAR 494 - Seminar. 1-6 Credits.**

(R-6) Offered intermittently. Varying topics. Level: Undergraduate-Graduate

**PHAR 498 - Internship. 1-6 Credits.**

Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, and 498) may count toward graduation. Level: Undergraduate-Graduate

**PHAR 505 - Pharmacy Practice IV. 3 Credits.**

Offered autumn. Co-req., PHAR 553, PHAR 560. Prereq., third professional year standing in pharmacy. Applications of advanced drug therapy monitoring and disease state management. Level: Graduate

**PHAR 506 - Pharmacy Practice V. 3 Credits.**

Offered spring. Prereq., PHAR 505. Aspects of pharmacy management, including human resources, quality improvement, financial, and administrative policies and procedures involved in providing patient care. Level: Graduate

**PHAR 514E - Case Studies in Pharmaceutical Ethics. 3 Credits.**

Offered spring. Prereq., third professional year standing or consent of instr. A practical discussion of pharmacy ethics, as it relates to pharmacy practice. Level: Graduate  
Gen Ed Attributes: Ethical & Human Values

**PHAR 550 - Drug Literature Eval. 2 Credits.**

Offered autumn. Prereq., WRIT 101 or equivalent. Restricted to students in Pharmacy. Scientific and statistical evaluation of the drug and medical research literature to formulate solutions for patient-specific pharmacotherapy problems. Level: Graduate  
Gen Ed Attributes: Writing in the Disciplines

**PHAR 553 - Therapeutics III. 4 Credits.**

Offered autumn. Prereq., PHAR 452, PHAR 472, and third professional year standing. Coreq., PHAR 505, PHAR 560, PHAR 571. Pharmacotherapeutics of common disease states emphasizing pathophysiology and the selection, monitoring, and individualization of drug therapy. Applies the basic pharmaceutical sciences to patient care. Level: Graduate

**PHAR 554 - Therapeutics IV. 4 Credits.**

Offered spring. Prereq., PHAR 553 and coreq., PHAR 572. Pharmacotherapeutics of common disease states emphasizing pathophysiology and the selection, monitoring, and individualization of drug therapy. Applies the basic pharmaceutical sciences to patient care. Level: Graduate

**PHAR 559 - Public Health and Pharmacoeconomics. 3 Credits.**

Offered autumn. Prereq., third professional year or consent of instr. Covers concepts in public health, epidemiology, pharmacoeconomics, and outcomes research that shape health policy and professional practice. Level: Graduate

**PHAR 560 - Pharmaceutical Care Lab IV. 1 Credit.**

Offered autumn. Coreq., PHAR 505, PHAR 553. Practice in professional communication and pharmaceutical care interventions and recommendations. Level: Graduate

**PHAR 563 - Pharmaceutical Care Lab V. 1 Credit.**

Offered spring. Coreq., PHAR 554. Practice in professional communication and pharmaceutical care interventions and recommendations. Level: Graduate

**PHAR 565 - Pharmacy APPE Preparation. 3 Credits.**

Offered spring. Prereq., third professional year standing in pharmacy, PHAR 553. Coreq., PHAR 554, PHAR 563. Review and updates on pharmacotherapeutic topics with preparation for and orientation to the final experiential year of the professional pharmacy program. Level: Graduate

**PHAR 571 - Integrated Studies V. 1 Credit.**

Offered autumn. Prereq., third professional year standing in pharmacy and coreq., PHAR 553. Small group conferences designed to develop the professional skills needed to practice pharmaceutical care while integrating material from the professional pharmacy curriculum. Level: Graduate

**PHAR 572 - Integrated Studies VI. 1 Credit.**

Offered spring. Prereq., third professional year standing in pharmacy, coreq., PHAR 554. Small group conferences designed to develop professional skills while integrating material from other pharmacy courses. Level: Graduate

**PHAR 579 - Community Pharmacy APPE. 6 Credits.**

(R-12) Offered every term. Prereq., completion of didactic courses in the Pharm. D. program. Supervised professional experience in the patient care functions of the pharmacist in the community pharmacy setting. Level: Graduate

**PHAR 580 - Hospital Pharmacy APPE. 6 Credits.**

(R-12) Offered every term. Prereq. Completion of didactic courses in the Pharm.D. program. Supervised professional experience in the patient care functions of the pharmacist in the hospital pharmacy setting. Level: Graduate

**PHAR 581 - Inpatient APPE. 6 Credits.**

(R-12) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the clinical functions of the pharmacist in the inpatient hospital setting. Level: Graduate

**PHAR 582 - AMB Care APPE. 6 Credits.**

(R-18) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the clinical functions of the pharmacist in the ambulatory care setting. Level: Graduate

**PHAR 583 - Drug Information APPE. 6 Credits.**

(R-12) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the provision of drug information by the pharmacist. Level: Graduate

**PHAR 584 - Specialized Services APPE. 6 Credits.**

(R-12) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in specialized practice settings, such as home infusion, compounding, and nuclear pharmacies.. Level: Graduate

**PHAR 585 - Geriatric APPE. 6 Credits.**

(R-12) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience with geriatric patients in the long term care and/or other pharmacy setting. Level: Graduate

**PHAR 586 - Clinical Specialty APPE. 6 Credits.**

(R-18) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the clinical functions of the pharmacist in specialty settings or with specialized groups of patients. Level: Graduate

**PHAR 587 - Administrative APPE. 6 Credits.**

(R-12) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the administrative aspects of providing pharmaceutical care. Level: Graduate

**PHAR 588 - Research APPE. 6 Credits.**

(R-12) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in a research setting. Level: Graduate

**PHAR 589 - Education APPE. 6 Credits.**

(R-12) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in teaching in a pharmacy curriculum. Level: Graduate

**PHAR 591 - Special Topics. 1-12 Credits.**

(R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate

**PHAR 592 - Independent Study. 1-9 Credits.**

(R-9) Offered every term. Course material appropriate to the needs and objectives of the individual student. Level: Graduate