

**The Ohio State University
College of Pharmacy
Pharmaceutical Sciences Minor (PHARMSC-MN)**

College of Pharmacy Undergraduate Advising
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<https://pharmacy.osu.edu/education/undergraduate-programs/pharmaceutical-sciences-minor>

The Pharmaceutical Sciences minor offers unique training for students pursuing careers in health care and the pharmaceutical industry. Flexible in design, this minor permits students from both science and non-science disciplines to learn about drug science in a variety of contexts.

The minor in Pharmaceutical Sciences requires a minimum of 12 credit hours as outlined below.

Required Course (1 course; 3 CH)

PHR 2500 Drug Discovery, Development, and Delivery

Elective Courses (3-8 courses; 9 CH)

Students must take courses from the following list to bring total hours to 12, including at least 1 contemporary issues course (designated by *). At least 6 credit hours must be at the 3000 level or above. Some of the courses below may

PHR 2010* Pharmacology: How Drugs Work (3)
PHR 2100 Career Develop in the Pharm Sciences I (0.5)
PHR 2101 Career Develop in the Pharm Sciences II (0.5)
PHR 2367.xx Drug Use in American Culture (3)
PHR 2400.01* Addicting Drugs: Effects, Introductory Neurobiology, and Regulation (3)
PHR 2410* Drugstore Science (3)
PHR 2420* Drug Culture and Genetics: From Otzi to Ozzy (3)
PHR 2510/2511H* Introduction to Pharmacy (2-3)
PHR 2520* Patient Perspectives (2)
PHR 2530(E)* Intro to Pharmaceutical Science Research (2)
PHR 3400* Therapeutic Frontiers (2)
PHR 3420* Generation Rx: America's Drug-Taking Culture (3)
PHR 3430 Quest for the Cure (3)
PHR 3440* Drugs That Changed The World (3)
PHR 3500* Pharmacoethics: Dilemmas & Decision-Making (2)
PHR 3520* Principles of Therapeutics (2)
PHR 3530 Drugs, Human Enhancement & the Mastery of Nature (3)
PHR 3540* Health Citizenship: Advocacy & Change-making (3)
PHR 3550 Cosmetic Pharmaceuticals: Sciences and Beauty Beyond Skin Deep (3)
HISTORY/PHR 3708* Vaccines: A Global History (3)
PHR 3710 From Botanicals to Pharmaceuticals: The Evolution of Culture on Drug Production and Policies (3)
PHR 4000* Molecules to Medicines I: An Integrated Approach to the Pharmaceutical Sciences (5)
PHR 4010* Molecules to Medicines II: An Integrated Approach to the Pharmaceutical Sciences (5)
PHR 4193 Individual Studies in Pharm Sciences (.5-3)
PHR 4210H Problem Solving in Biomedical Chemistry (2)
PHR 4330 Basic Pharmacokinetics (2)
PHR 4390 Community-Based Pharmacy (2)
PHR 4402 Economic Evaluation of Pharmaceutical and Healthcare Interventions (3)
PHR 4420* Biologics: Transforming Medicine (2)
PHR 4430 GPCR Pharmacology (2)
PHR 4440* Pharmacology of Neurologic and Psychiatric Disorders (3)
PHR 4600 Pharmaceutical Sciences Laboratory (3)
PHR 4610 Experimental Techniques in Drug Discovery (4)

PHR 4998 General Undergraduate Research (.5-3)
PHR 5010 Fundamentals of Pharmacology (3)
PHR 5410* Communicating Vaccine Science (3)
PHR 5540* Topics in Clinical Pharmacy Research (2)
PHR 5550* Topics in International Pharmacy (2)
PHR 5560 Success & Leadership in Pharmacy (1.5)
PHR 5590 Chemical Dependency and the Healthcare Professional (3)

Pharmaceutical Sciences minor program guidelines:

Credit hours required: A minimum of 12 CH. 1000-level courses shall not be counted in the minor. At least 6 credit hours must be upper-level courses as defined by the College of Pharmacy (3000 level or above).

Transfer and EM credit hours allowed: A student is permitted to count up to 6 total hours of transfer credit and/or credit by examination.

Overlap with the GE: A student is permitted to overlap up to 6 credit hours between the GE and the minor.

Overlap with the major and additional minor(s):

The minor must be in a different subject than the major.

The minor must contain a minimum of 12 hours distinct from the major and/or additional minor(s).

Grades required:

Minimum C- for a course to be listed on the minor

Minimum 2.00 cumulative GPA for all minor course work.

Course work graded Pass/Non-Pass cannot count on the minor No more than 3 credit hours of course work graded

Satisfactory/Unsatisfactory may count toward the minor

X193 credits: No more than 3 credit hours

Declaring the minor

Students should see their assigned academic advisor to declare the minor prior to the filing of the graduation application. Students do not need the approval of the College of Pharmacy to declare the minor.

Approval of Coursework

Initial approval of the minor coursework:

Students who complete the minor following the guidelines on this sheet need only verify with their academic advisor that the minor appears complete on the degree auditing system. No approval from the College of Pharmacy is required.

Approval for courses not listed on this form to apply to the minor program:

Students must obtain the approval of the College of Pharmacy to apply courses not listed on this form toward the Pharmaceutical Sciences minor. Please email COP-BSPSInfo@osu.edu to request approval.

College of Arts and Sciences Curriculum and Assessment Services
306 Dulles Hall, 230 Annie and John Glenn Ave.
<http://artsandsciences.osu.edu>

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