

PHARMACOLOGY, PHD

Pharmacological sciences represent an extremely large field of modern science, intertwined with many other biomedical disciplines: cancer and cardiovascular pharmacology, cell signaling, neuropharmacology, pharmacogenetics, pharmacological chemistry, environmental health sciences, and targeted therapeutics. Core courses include Cell Biology, Fundamentals in Pharmacology, Human Physiology, and Medical Pharmacology. Electives are chosen by the student to suit their interests. Pharmacology students may rotate in labs doing very different types of research, to enrich their background and allow unrushed, instructed selection of direction of their future thesis research.

For more information: <https://www.med.upenn.edu/ggps/index.shtml>
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View the University's Academic Rules for PhD Programs (<http://catalog.upenn.edu/pennbook/academic-rules-phd/>).

Required Courses

Code	Title	Course Units
Coursework		
BIOM 6000	Cell Biology	
BIOM 6100	Foundations in Statistics ¹	
PHRM 5320	Human Physiology	
PHRM 6230	Fundamentals of Pharmacology	
PHRM 6240	Medical Pharmacology	
PHRM 9700	Candidacy Examination	
PHRM 5990	Pharmacology Graduate Group Journal Club	
	Pharmacology Seminar elective	
	Select two electives	
Research		
PHRM 6990	Laboratory Rotation	
PHRM 8990	Pre-Dissert Lab Rotation	
PHRM 9950	Dissertation	

¹ Or other statistics course with approval of the Graduate Group.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2023 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Sample Plan of Study

Code	Title	Course Units
Year 1		
<i>Fall</i>		
BIOM 6000	Cell Biology	
PHRM 5990	Pharmacology Graduate Group Journal Club	
PHRM 6230	Fundamentals of Pharmacology	

PHRM 6990	Laboratory Rotation (or select electives)
<i>Spring</i>	
PHRM 6990	Laboratory Rotation
BIOM 6100	Foundations in Statistics
PHRM 5990	Pharmacology Graduate Group Journal Club
Elective	
<i>Summer</i>	
PHRM 6990	Laboratory Rotation
Year 2	
<i>Fall</i>	
PHRM 5320	Human Physiology
PHRM 6240	Medical Pharmacology
PHRM 8990	Pre-Dissert Lab Rotation
<i>Spring</i>	
PHRM 9700	Candidacy Examination
PHRM 8990	Pre-Dissert Lab Rotation
Year 3 and Beyond	
PHRM 9950	Dissertation