

Winkle College of Pharmacy
Pharmaceutical Sciences Graduate Program
PhD Degree Minimum Requirements

Drug Development Sciences - PhD

Required Didactic & Research Courses	Course Number	Credit Hours
Ethics in Research	GNTD7003	1
Principles of Pharmaceutical Sciences	PHID7010	3
Molecular and Cellular Biology	GNTD7001	3
Biochemistry and Cellular Signaling	GNTD7002	3
Statistics (<i>choose one of the following courses</i>)		3
Statistical Principles in Clinical Research (PHDD8060, 3 cr hrs)		
Introduction to Biostatistics (BE7022, 3 cr hrs)		
Journal Club in Pharmaceutical Sciences	PBIO7004	4
Seminar in Pharmaceutical Sciences	PHID7005	4
Research in Pharmaceutical Sciences	PHID7001	12
Elective Courses* (see examples below)		12
	Required Courses	45
Supplemental Elective Courses* and/or Research in Pharmaceutical Sciences		15
PhD Dissertation Research	PHID9001	30
	TOTAL	90

***Examples of Elective Courses**

- Research in Pharmaceutical Sciences (PHID7001, variable 1-12 cr hrs)
- Advanced Pharmaceutics II (PCEU7030, 3 cr hrs)
- Global Regulatory & Development Strategies of Drugs/Medical Devices (PHDD8010, 3 cr hrs)
- Phase I/II Clinical Trial Design & Research (PHDD8050, 3 cr hrs)
- Phase III/IV Clinical Trial Design & Research (PHDD8070, 3 cr hrs)
- Pharmaceutical Economics & Management (PHDD8080, 3 cr hrs)
- Introduction to Functional Genomics (GNTD8001C, 3 cr hrs)
- Cancer Biology and Therapeutics (CB8080, 4 cr hrs)
- Scientific Writing (CB9022, 2 cr hrs)