

**Winkle College of Pharmacy  
Pharmaceutical Sciences Graduate Program  
MS Degree Minimum Requirements**

**MS - Biomembrane Sciences (replaces "Pharmaceutics" track)**

Required Didactic & Research Courses	Course Number	Credit Hours
Ethics in Research	GNTD7003	1
Principles of Pharmaceutical Sciences	PHID7010	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)		
Advanced Pharmaceutics ( <i>choose one of the following courses</i> )		3
Advanced Pharmaceutics I (PCEU7020, 3 cr hrs)		
Advanced Pharmaceutics II (PCEU7030, 3 cr hrs)		
Journal Club in Pharmaceutical Sciences	PCEU7004	2
Seminar in Pharmaceutical Sciences	PHID7005	2
Research in Pharmaceutical Sciences	PHID7001	3
Elective Courses* (see examples below)		3
	<b>Required Courses</b>	<b>20</b>
<b>MS Thesis Research</b>	PHID8001	10
	<b>TOTAL</b>	<b>30</b>

**\* Examples of Elective Courses**

Research in Pharmaceutical Sciences (PHID7001, variable 1-12 cr hrs)  
 Diffusion, Dissolution and Mass Transport (PCEU7080, 3 cr hrs)  
 Skin Care Science (PCEU8010, 3 cr hrs)  
 Cosmetic Formulations I (PCEU8020, 3 cr hrs)  
 Molecular and Cellular Biology (GNTD7001, 3 cr hrs)  
 Biochemistry and Cellular Signaling (GNTD7002, 3 cr hrs)  
 Introduction to Functional Genomics (GNTD8001C, 3 cr hrs)  
 Separations (CHEM8021, 3 cr hrs)  
 Scientific Writing (CB9022, 2 cr hrs)