MASTER'S IN PHARMACEUTICAL SCIENCES

The focus of the Master's in Pharmaceutical Sciences (MSPS) curriculum is to improve students' understanding of the chemical properties of drugs and their effects within biological systems in both healthy and diseased populations, with the goal of preparing individuals for technical positions in healthcare related to pharmaceutical research and development, regulation and sales. Core coursework will have an emphasis on basic science as well as techniques and knowledge highly relevant to pharmaceutical sciences in the industrial, academic and governmental settings. The MSPS has a requirement for a laboratory-based research thesis in which the student will work directly with their faculty mentor to develop and experimentally investigate a topic relevant to pharmacotherapeutics. The curricular offerings and research experience will give the individual the knowledge and skills to more competitively pursue a career related to drug development, assessment, regulation, and marketing in the private and public sectors.

The requirements for an individual applying to the MSPS program are as follows:

- Math/Science GPA and Cumulative GPA both >2.8 in a Bachelor of Science.
- Official Transcripts from all previously attended colleges and universities in the United States.
- Personal Statement (Letter of Intent) is required (<500 words).
- For foreign applicants, an English language proficiency exam (i.e., TOEFL).

Recommended Coursework to apply for the MSPS:

- General Biology I & II
- Anatomy and Physiology I & II
- General Chemistry I & II
- Organic Chemistry I & II
- English Composition I & II
- Calculus
- Statistics

Applications not meeting minimum requirements will be reviewed and admitted at the discretion of the Admissions committee. Applicants with a GPA <2.8 are recommended to provide a GRE, MCAT, PCAT or DAT score.

Interdisciplinary and Required Coursework:

Students will first pursue their degree in pharmaceutical sciences taking core coursework offered by the Pharmacy program at Roosevelt University, including courses in biochemistry, calculations, pharmaceutics, and principles of drug action. Following their first year, students will then transition to the graduate college and take core coursework in biotechnology and are allowed to pursue elective topics of interest in biology, chemistry and biochemistry in line with their research interests and the focus of their thesis advisor. During the second-year students will develop a thesis under supervision of a faculty advisor, as described below.

Research Thesis and Independent Study

All students in the Pharmaceutical Sciences program **must** complete 9 total hours of laboratory-based research under supervision of their advisor (BIOL 485 THESIS or BCHM 485 THESIS; each 3 credit hours). A research thesis will be developed under the mentorship of the advisor and submitted to the thesis committee for evaluation prior to oral defense of the thesis. Research offerings currently include areas in biology, biochemistry, pharmacology, and medicinal chemistry. A research thesis is mandatory for completion of the degree. Details on the thesis preparation process are available from the graduate program director and department chair.

Your degree map is a general guide of courses to complete each term on the academic pathway to your degree. It is based on the most current scheduling information from your academic program. Your program's degree map is reviewed annually and updated as schedules change.

Year 1			
Summer	**Credit Hours**	**Fall**	**Credit Hours**
BCHM 410	4	BCHM 418	4.5
BCHM 421	3.5		
BCHM 419	2	BCHM 430	3
BIOL 468	3		
	6		**7.5**
	6.5		
Year 2			
Summer	**Credit Hours**	**Fall**	**Credit Hours**
BIOL 485 (or BCHM 485)	3	BIOL 480	3
BIOL 482	3		
		BIOL 485 (or BCHM 485)	3
		Elective[1]	3
Elective[1]	3		
	3		**9**
	9		

Total Credit Hours 41

[1] **Select from recommended course electives:** BIOL 404 HISTOLOGY & ULTRASTRUCTURE, BIOL 450 CANCER BIOLOGY, BIOL 451 GENERAL GENETICS, BIOL 453 MOLECULAR BIOLOGY, BIOL 456 DEVELOPMENTAL BIOLOGY, BIOL 458 CELL BIOLOGY, , BIOL 463 INTRODUCTION TO GENOME ANALYSIS, CHEM 436 ANALYTICAL CHEMISTRY, BCHM 456 EXP. MTHDS BIOCHEM & BIOTECH, or BCHM 457 ADVANCED BIOCHEMISTRY

Total Credit Hours: 41 semester credit hours.

Includes 9 dedicated hours of research credit for thesis development and defense.

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Year 1			
Fall	**Credit Hours**	**Spring**	**Credit Hours**
BIOL 480	3	BIOL 482	3
BIOL 468	3	Elective[1]	3

Elective[1]	3		
	9	**6**	

Year 2

Fall	Credit Hours	Spring	Credit Hours	Summer	Credit Hours
BCHM 418	4.5	BCHM 421	3.5	BCHM 410	4
BCHM 430	3	BIOL 485 (or BCHM 485)	3	BCHM 419	2
BIOL 485 (or BCHM 485)	3			BIOL 485 (or BCHM 485)	3
	10.5		**6.5**		**9**

Total Credit Hours 41

[1] **Select from recommended course electives:** BIOL 404 HISTOLOGY & ULTRASTRUCTURE, BIOL 450 CANCER BIOLOGY, BIOL 451 GENERAL GENETICS, BIOL 453 MOLECULAR BIOLOGY, BIOL 456 DEVELOPMENTAL BIOLOGY, BIOL 458 CELL BIOLOGY, , BIOL 463 INTRODUCTION TO GENOME ANALYSIS, CHEM 436 ANALYTICAL CHEMISTRY, BCHM 456 EXP. MTHDS BIOCHEM & BIOTECH, or BCHM 457 ADVANCED BIOCHEMISTRY