

M.S. in Pharmaceutical Chemistry

M.S. in Pharmaceutical Chemistry

The Master of Science in Pharmaceutical Chemistry provides advanced graduate training in the pharmaceutical and health sciences. The program provides professional training in quantitative methods that prepares graduates for careers in the medical, pharmaceutical, environmental, and biotechnology industries.

The M.S. in Pharmaceutical Chemistry requires 30 credits and includes 15 credit hours of core technical courses and 15 credit hours of technical electives. Co-op work experience and independent research may be used in place of certain technical electives, pending advisor approval.

Code	Title	Credits
Required Core Courses		
BIOL 605	Prin of Bioscience Processing	3
CHEM 605	Advanced Organic Chemistry I: Structure	3
CHEM 673	Biochemistry	3
CHEM 714	Pharmaceutical Analysis	3
CHEM 777	Principles Pharm Chemistry	3
Select five of the following:		3
BIOL 606	App Bioproc & Immun Based Ther	
CHEM 590	Graduate Co-Op Work Exper I	
CHEM 610	Advanced Inorganic Chemistry	
CHEM 658	Advanced Physical Chemistry	
CHEM 661	Instrumental Analysis Laboratory	
CHEM 716	Integrated Drug Dev & Discover	
CHEM 719	Drug Delivery Systems	
CHEM 737	Applications of Computational Chemistry and Molecular Modeling	
CHEM 748	Nanomaterials	
EVSC 616	Toxicology	
MATH 663	Introduction to Biostatistics	
MATH 664	Methods for Statistical Consulting	
PHEN 500	Pharmaceutical Engineering Fundamentals I	
PHEN 601	Principles of Pharmaceutical Engineering	
PHEN 604	Validation and Regulatory Issues in the Pharmaceutical Industry	
PHEN 618	Principles of Pharmacokinetics and Drug Delivery	
R120 572	Concepts in Pharm Drug Dev	
R160 515	Chem Struct Determin	
RBHS course - PATH N5209 Business of Science: Drug Development from Molecules to Medicines		
RBHS course - PHPY N5021 Fundamentals of Pharmacology		
Total Credits		18

M.S. in Pharmaceutical Chemistry PSM (Professional Science Master's) Biotechnology Option

This program option is affiliated with the National PSM Office. The objective of the option is to create leaders with strong communication and management skills in addition to strong technical knowledge in biotechnology in order to meet the needs of the rapidly changing biopharmaceutical industry. This option is designed for working professionals or students who already have acquired some professional experience.

This option requires 30 credits and includes 15 credit hours of core technical courses, 9 credit hours of professional courses (technical and professional communications, project management, intellectual property, or organizational behavior), 3 credit hours of co-op internship, and 3 credit hours of a technical elective.

Code	Title	Credits
Required Core Courses		
BIOL 605	Prin of Bioscience Processing	3

BIOL 606	App Bioproc & Immun Based Ther	3
CHEM 605	Advanced Organic Chemistry I: Structure	3
CHEM 673	Biochemistry	3
CHEM 777	Principles Pharm Chemistry	3

Required Professional Courses

Select three of the following: 9

EM 634	Legal, Ethical and Intellectual Property Issues for Engineering Managers	
HRM 601	Organizational Behavior	
MGMT 641	Global Project Management	
PTC 601	Advanced Professional and Technical Communication	

Required Experiential Capstone

CHEM 590 Graduate Co-Op Work Exper I 3

Elective Courses

Select one of the following: 3

CHEM 658	Advanced Physical Chemistry	
CHEM 661	Instrumental Analysis Laboratory	
CHEM 700B	Masters Project	
CHEM 714	Pharmaceutical Analysis	
CHEM 716	Integrated Drug Dev & Discover	
CHEM 719	Drug Delivery Systems	
CHEM 737	Applications of Computational Chemistry and Molecular Modeling	
CHEM 748	Nanomaterials	
EVSC 616	Toxicology	
MATH 663	Introduction to Biostatistics	
PHB 610	Biotechnology-Biopharmaceutical, Processes and Products	
PHB 615	Bioseparation Processes	
PHEN 500	Pharmaceutical Engineering Fundamentals I	
PHEN 601	Principles of Pharmaceutical Engineering	
PHEN 604	Validation and Regulatory Issues in the Pharmaceutical Industry	
PHEN 618	Principles of Pharmacokinetics and Drug Delivery	
R120 572	Concepts in Pharm Drug Dev	
R160 515	Chem Struct Determin	

RBHS course - PATH N5209 Business of Science:Drug Dev from Molecules to Medicine

RBHS course - PHPY N5021 Fundamentals of Pharmacology

Total Credits 30