

M.S. in Pharmaceutical Chemistry

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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. 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:		15
BIOL 606	App Bioproc & Immun Based Ther	
CHEM 610	Advanced Inorganic Chemistry	
CHEM 658	Advanced Physical Chemistry	
CHEM 661	Instrumental Analysis Laboratory	
CHEM 698	Selected Topics in Chemistry	
CHEM 700B	Masters Project	
CHEM 702	Special Topics in Chemistry II	
CHEM 716	Integrated Drug Dev & Discover	
CHEM 719	Drug Delivery Systems	
CHEM 737	Applications of Computational Chemistry and Molecular Modeling	
CHEM 748	Nanomaterials	
EVSC 610	Environmental Chemical Science	
EVSC 612	Environmental Analysis	
EVSC 616	Toxicology	
EVSC 623	Environmental Health	
EVSC 627	Environmental Microbiology	
EVSC 715	Energy and Sustainability	
MATH 661	Applied Statistics	
MATH 663	Introduction to Biostatistics	
PHEN 601	Principles of Pharmaceutical Engineering	
PHEN 604	Validation and Regulatory Issues in the Pharmaceutical Industry	
PHEN 618	Principles of Pharmacokinetics and Drug Delivery	
Total Credits		30

M.S. in Pharmaceutical Chemistry PSM (Professional Science Master's) Cell & Gene Therapy Sciences 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 cell and gene therapy sciences 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 practicum or master's project, 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 673	Biochemistry	3
CHEM 714	Pharmaceutical Analysis	3
CHEM 777	Principles Pharm Chemistry	3
Required Professional Courses		
Select three of the following:		9
ECON 610	Managerial Economics	
EM 631	Legal Aspects in Environmental Engineering	
EM 633	Legal Aspects of Health and Safety	
EM 634	Legal, Ethical and Intellectual Property Issues for Engineering Managers	
EM 636	Project Management	
EVSC 613	Environmental Problem Solving	
EVSC 614	Quantitative Environmental Risk Assessment	
EVSC 623	Environmental Health	
EVSC 715	Energy and Sustainability	
FIN 600	Corporate Finance I	
IE 603	Behavioral Science in Engineering Organization	
IE 615	Industrial Hygiene and Occupational Health	
HRM 601	Managing Organizational Behavior in Technology-Based Organizations	
MGMT 620	Strategic Management of Technological Innovation	
MGMT 640	New Venture Management	
MGMT 650	Knowledge Management	
PTC 660	Medical Ethics	
PTC 725	Independent Study in Professional and Technical Communication	
Required Experiential Capstone		
Select one of the following:		3
CHEM 595	Practicum in Cell & Gene Therapy Sciences	
CHEM 700B	Masters Project	
Elective Courses		
Select one of the following:		3
CHEM 601	Special Topics in Chemistry I	
CHEM 605	Advanced Organic Chemistry I: Structure	
CHEM 610	Advanced Inorganic Chemistry	
CHEM 658	Advanced Physical Chemistry	
CHEM 661	Instrumental Analysis Laboratory	
CHEM 698	Selected Topics in Chemistry	
CHEM 702	Special Topics in Chemistry II	
CHEM 716	Integrated Drug Dev & Discover	
CHEM 719	Drug Delivery Systems	
CHEM 737	Applications of Computational Chemistry and Molecular Modeling	
CHEM 748	Nanomaterials	
EVSC 610	Environmental Chemical Science	
EVSC 616	Toxicology	
EVSC 627	Environmental Microbiology	
MATH 663	Introduction to Biostatistics	
PHEN 604	Validation and Regulatory Issues in the Pharmaceutical Industry	
PHEN 618	Principles of Pharmacokinetics and Drug Delivery	
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