

MASTER OF SCIENCE IN PHARMACEUTICAL ENGINEERING

Curriculum

Code	Title	Credit Hours
Core Courses		(12)
CHE 506	Entrepreneurship and Intellectual Property Management	3
CHE 577	Bioprocess Engineering	3
CHE 583	Pharmaceutical Engineering	3
CHE 585	Drug Delivery	3
Elective Courses		(18)¹
Select 18 credit hours from the following courses:		18
BIOL 515	Molecular Biology	3
BME 502	Introduction to Regulatory Science for Engineers	3
BME 516	Biotechnology for Engineers	3
BME 517	Technologies for Treatment of Diabetes	3
BME 518	Reaction Kinetics for Biomedical Engineering	3
BME 524	Quantitative Aspects of Cell and Tissue Engineering	3
BME 525	Introduction to Medical Devices, BioMEMS and Microfluidics	3
BME 533	Biostatistics	3
CHE 426	Statistical Tools for Engineers	3
CHE 501	Transport Phenomena	3
CHE 508	Process Design Optimization	3
CHE 514	Process Analytical Technology	3
CHE 516	Technologies for Treatment of Diabetes	3
CHE 525	Chemical Reaction Engineering	3
CHE 535	Applications of Mathematics to Chemical Engineering	3
CHE 538	Polymerization Reaction Engineering	3
CHE 545	Metabolic Engineering	3
CHE 560	Statistical Quality and Process Control	3
CHE 580	Biomaterials	3
CHE 582	Interfacial and Colloidal Phenomena with Applications	3
CHE 593	Seminar in Chemical Engineering (may be taken twice)	1
CHE 594	Special Projects	3-6
CHEM 518	Understanding the International Conference on Harmonization Guidelines	3
CHEM 519	Good Manufacturing Practices	3
CHEM 543	Analytical Chemistry in Pharmaceutical Laboratories	2
CHEM 700	Practical Laboratory for Analytical Chemistry	2
MMAE 561	Solidification and Crystal Growth	3
Other approved electives from CHE, CHEM, BME, BIOL, including:		
Recommended		
CHE 593	Seminar in Chemical Engineering	1
Total Credit Hours		30