

CERTIFICATE IN PHARMACEUTICAL ENGINEERING

This program develops, expands, and refines skills to advance the technology of prescription drug development and manufacturing. Fundamentals of pharmaceutical engineering, drug delivery systems, and regulatory issues are presented.

Curriculum

A minimum of four courses (12 credit hours) are required for this certificate.

Code	Title	Credit Hours
Required Courses		
		(12)
CHE 583	Pharmaceutical Engineering	3
CHE 585	Drug Delivery	3
Select 6 credit hours from the following courses:		6
BIOL 515	Molecular Biology	3
BME 516	Biotechnology for Engineers	3
BME 525	Introduction to Medical Devices, BioMEMS and Microfluidics	3
CHE 426	Statistical Tools for Engineers	3
CHE 501	Transport Phenomena	3
CHE 506	Entrepreneurship and Intellectual Property Management	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 577	Bioprocess Engineering	3
CHE 580	Biomaterials	3
CHE 582	Interfacial and Colloidal Phenomena with Applications	3
CHEM 519	Good Manufacturing Practices	3
MMAE 556		3
MMAE 561	Solidification and Crystal Growth	3
Total Credit Hours		12