Doctor of Philosophy in Pharmaceutical Sciences
Specialization in Industrial Pharmacy

60 Credit Program

45 credits of course work beyond baccalaureate degree and a minimum of 15 credits of research (PHS 950)

30 Credit Program

15 credits beyond the M.S. degree including the basic requirements in area of specialty and a minimum of 15 credits of research (PHS 950)

Core Courses:

Course #	Name	Credits
PHS 256	Pharmaceutical Analysis Lab	3
PAS 252	Biopharmaceutical Statistics	3
IPP 241	Advanced Biopharmaceutics	3
PHS 251,252,253,254*	Seminar in the Pharmaceutical Sciences	0/1*
PAS 265	Scientific Inquiry: Regulation and Ethical challenges	3*
IPP 950	Doctoral Research (must be registered at least 5 times)	3

Elective Courses:

IPP 101	Special Problems	3
IPP 231&231L	Principles of Manufacturing Pharmacy, Lecture & Laboratory	4
IPP 233	Industrial Pharmacy Journal Club	2
IPP 234	Pharmaceutical Materials	3
IPP 235&235L	Product Formulation, Lecture & Laboratory	4
IPP 236	Evaluation of Pharmaceutical Dosage Forms	3
IPP 237	Industrial Pharmacy	3
IPP 247	Special Drug Delivery Systems	3
IPP 250	Targeted Drug Delivery Systems	3
IPP 255	Biotechnological Drug Delivery Systems	3
IPP 265	Introduction to Industrial Pharmacy I	3
IPP 266	Introduction to Industrial Pharmacy II	3
IPP 267	Advanced Physical Pharmacy	3
IPP 271	Degradation and Stability of Pharmaceutical Systems	3
IPP 273	Pharmacokinetic and Pharmacodynamic Data Analyses	3
PHM 102	Principles of Pharmacology I	3
PHM 103	Principles of Pharmacology II	3
PHM 209	Pharmacological aspects of respiratory diseases	3
PHM 240	Pharmacology of anticancer drugs	3
PHM 249	Cardiovascular Pharmacology	3
PHS 250/250L	Cell and Tissue Culture	4
PHS 240/240L	Electron microscopy lab	4

Please note course PAS 265* Scientific Inquiry: Regulation and Ethical Challenges is required but the credits will not be counted toward the degree credit requirement. Credits **do** count towards student status as full time students