

**Special Courses of Doctor of Philosophy Degree in Pharmaceutical
Sciences**
Industrial Pharmacy Department

1- Specialized Courses: (18 cr. h)

First Semester (9 cr. h)

No.	Course code	Courses	Credit hours	
			L	P
1	0603801	Pharmaceutical Packaging	3	--
2	0603802	Seminar I	3	--
3		Elective Course	3	--
Total			9	

Second Semester (9 cr. h)

No.	Course code	Courses	Credit hours	
			L	P
4	0603803	Recent Drug Delivery Systems	3	--
5	0603804	Seminar II	3	--
6		Elective Course	3	--
Total			9	

Elective Courses

No.	Course code	Courses	Credit hours	
			L	P
1	0603805	Pharmaceutical Quality Control	3	--
2	0603806	Drug Marketing	3	--
3	0603807	International Laws Controlling and Affecting Pharmaceutical Industry	3	--
4	0603808	Selected Topics in Industrial Pharmacy	3	--

**Course Description of Doctor of Philosophy Degree in
Pharmaceutical Sciences
Industrial Pharmacy Department**

First Semester (9 cr. h)

Course Name	Credit hours		Code No.
	L	P	
Pharmaceutical Packaging	3	--	0603801
<p>Description: Requirements of a satisfactory package, different types of containers, spoilage mechanism, climatic hazards of distribution, packaging materials, types of glass, ferrous and non-ferrous metals, classification of polymers, technology of plastics, potential problems of containers. PIAT 10- Pharmaceutical Packaging University of Manchester/ UK</p> <ul style="list-style-type: none"> • https://www.manchester.ac.uk/study/masters/courses/list/09123/msc-pharmaceutical-industrial-advanced-training-piat/?pg=allandunit=PHAR71100andunitYear=1 			

Second Semester (9 cr. h)

Course Name	Credit hours		Code No.
	L	P	
Recent Drug Delivery Systems	3	--	0603803
<p>Description: The topic includes fundamentals of controlled release systems such as; drug administration, ocular, intravaginal, intrauterine, transdermal, parenteral, implantable drug delivery systems, and regulatory considerations in controlled release medication. MS7032 Drug Delivery Systems London Metropolitan University/ UK</p> <ul style="list-style-type: none"> • https://intranet.londonmet.ac.uk/module-catalogue/record.cfm?msid=FF1E2437-5D77-4F94-B80F5F7F123E5535 			

Elective Courses

Course Name	Credit hours		Code No.
	L	P	
Pharmaceutical Quality Control	3	--	0603805
<p>Description: Control of quality including: control of quality variations, in-process quality control, finished product quality control, quality control during packaging operations, concept of statistical quality control assurance of finished products, testing programs and methods. PHAR61900 Quality Control University of Manchester/UK</p> <ul style="list-style-type: none"> • https://www.manchester.ac.uk/study/masters/courses/list/09912/msc-pharmaceutical-technology-and-quality-assurance/?pg=allandunit=PHAR61900andunitYear=all 			

Course Name	Credit hours		Code No.
	L	P	
Drug Marketing	3	--	0603806
<p>Description: The topics include marketing research, marketing campaign, the four "P's", factors affecting increase in sales and market share, competitors' effect, selling skills.</p> <p>B7692-001 Pharmaceutical Commercialization - Strategy and Practice Colombia Business School/ NY/ USA</p> <ul style="list-style-type: none"> • https://www8.gsb.columbia.edu/courses/emba/2018/summer/b7692-001 			

Course Name	Credit hours		Code No.
	L	P	
International Laws Controlling and Affecting Pharmaceutical Industry	3	--	0603807
<p>Description: Food and Drug administration (FDA), other laws governing pharmaceutical industry such as TRIPS and GATT, intellectual and industrial property, patents and trademarks, laws governing evaluation of new drug product, new drug application.</p> <p>Regulatory Affairs and Compliance University of California / USA</p> <ul style="list-style-type: none"> • https://ce.uci.edu/areas/life_sciences/regulatory_compliance/ 			

Course Name	Credit hours		Code No.
	L	P	
Selected Topics in Industrial Pharmacy	3	--	0603808
<p>Description: Compression of solids and compressed dosage forms, drug targeting, aerosols, inhalation therapy, bio-adhesion, gene therapy.</p> <p>PHM321H1 Selected Topics in the Pharmaceutical Industry University of Toronto/ Canada</p> <ul style="list-style-type: none"> • https://pharmacy.utoronto.ca/programs-and-admissions/pharmd/current-students/year-3/year-3-course-descriptions/#PHM450H1%20Aboriginal%20Issues%20in%20Health%20and%20Healing 			