

**Courses of PharmD**  
**(38 cr. h)**

**First Semester (7 cr. h)**

No.	Course Code	Courses	Credit hours	
			L	P
1	0600901	Basic Clinical Pharmacy I	2	--
2	0600902	Pharmacotherapeutics I	2	--
3	0600903	Clinical Lab Investigations	2	--
4		Elective Course	1	--
<b>Total</b>			<b>7</b>	

**Second Semester (7 cr. h)**

No.	Course Code	Courses	Credit hours	
			L	P
5	0600904	Pharmacotherapeutics II	2	--
6	0600905	Basic Clinical Pharmacy II	2	--
7	0600906	Pharmacoepidemiology	2	--
8		Elective Course	1	--
<b>Total</b>			<b>7</b>	

### **Third Semester (11 cr. h)**

No.	Course Code	Courses	Credit hours	
			L	P
9	0600907	Pharmacotherapeutics III	2	--
10	0600908	Clinical Pharmacokinetics I	2	--
11	0600909	Dissertation	2	--
12	0600910	Hospital Training I	--	4*
13		Elective Course	1	--
<b>Total</b>			<b>11</b>	

\*1 credit hour hospital training is 4 hours weekly

### **Fourth Semester (13 cr. h)**

No.	Course Code	Courses	Credit hours	
			L	P
14	0600911	Pharmacotherapeutics IV	2	--
15	0600912	Clinical Pharmacokinetics II	2	--
16	0600913	Pharmacoeconomics	2	--
17	0600914	Seminar	2	--
18	0600915	Hospital Training II	--	4*
19		Elective Course	1	--
<b>Total</b>			<b>13</b>	

\*1 credit hour hospital training is 4 hours weekly

## Elective Courses

No.	Course Code	Courses	Credit hours	
			L	P
1	0600916	Professional Communication Skills for Clinical Pharmacy Practice	1	--
2	0600917	Blood Products, Plasma Expanders and Haemostatics	1	--
3	0600918	Rational Use of Antibiotics	1	--
4	0600919	Enteral and Total Parenteral Nutrition	1	--
5	0600920	Pharmacokinetic Drug Monitoring	1	--
6	0600921	Critical Care Pharmacy	1	--
7	0600922	Dispensing of Sterile Products and Cytotoxic Drugs	1	--
8	0600923	Personalized Medicine	1	--
9	0600924	Neuropsychiatry in Pharmacy Practice	1	--
10	0600925	Novel Therapy Modalities	1	--

## Course Description of Pharm D

### First Semester (7 cr. h)

Course Name	Credit hours		Code No.
	L	P	
<b>Basic Clinical Pharmacy I</b>	2	--	0600901
<b>Description:</b> <ul style="list-style-type: none"><li>• Medical information retrieval methods.</li><li>• Basic pharmacokinetics, revision and updating.</li></ul>			

Course Name	Credit hours		Code No.
	L	P	
<b>Pharmacotherapeutics I</b>	2	--	0600902
<b>Description:</b> <ul style="list-style-type: none"><li>• Diseases of the cardiovascular system: Hypertension, hyperlipidemia, ischemic heart disease, heart failure, cardiac arrhythmias, thromboembolic diseases and stroke.</li><li>• Drug management in these disease states.</li></ul>			

Course Name	Credit hours		Code No.
	L	P	
<b>Clinical Lab Investigations</b>	2	--	0600903
<b>Description:</b> <ul style="list-style-type: none"><li>• Principles, preparation of patient, sampling of biological fluids and factors affecting lab results: patient concern and lab concern.</li><li>• Interpretation of lab results: reference ranges, borderline values, diagnostic parameters, prognostic and follow-up investigations</li><li>• Lab findings in some major health problems.</li></ul>			

## Second Semester (7 cr. h)

Course Name	Credit hours		Code No.
	L	P	
<b>Pharmacotherapeutics II</b>	2	--	0600904
<b>Description:</b> A) <b>Nephrology:</b> acute renal failure, diabetic nephropathy, anemia in chronic renal failure, predialysis chronic renal failure, nephritic and nephrotic syndromes, hemodialysis, types of dialysers, drug management in these disease states and in transplant patients. B) <b>Rheumatology:</b> rheumatoid arthritis, osteoarthritis, spondylo-arthropathy and gout, connective tissue disorder: systemic lupus erythromatosis. Bone disease: osteoporosis, Paget's disease and osteomalacia, drug management.			

Course Name	Credit hours		Code No.
	L	P	
<b>Basic Clinical Pharmacy II</b>	2	--	0600905
<b>Description:</b> <ul style="list-style-type: none"><li>• Biostatistics for clinical pharmacists.</li><li>• Critical literature appraisal.</li><li>• Orientation to hospital training.</li></ul>			

Course Name	Credit hours		Code No.
	L	P	
<b>Pharmacoepidemiology</b>	2	--	0600906
<b>Description:</b> <ul style="list-style-type: none"><li>• Drug utilization studies: types, importance, aspects and consequences.</li><li>• Clinical trials: process of drug development, preclinical trials, premarketing clinical research, clinical studies. Post-marketing surveillance.</li><li>• Application of epidemiologic science to pharmacoepidemiology</li><li>• Prevalence, monitoring and management of nosocomial infections.</li></ul>			

### Third Semester (11 cr. h)

Course Name	Credit hours		Code No.
	L	P	
<b>Pharmacotherapeutics III</b>	2	--	0600907
<b>Description:</b> A) <b>Hematology:</b> leukemias, lymphomas, anemias, drug management in these diseases. B) <b>Hepatology:</b> liver cirrhosis and fibrosis, portal hypertension, hepatic encephalopathy, parasitic diseases, drug- related liver toxicity, drug- related jaundice, viral hepatitis, drug management in these diseases.			

Course Name	Credit hours		Code No.
	L	P	
<b>Clinical Pharmacokinetics I</b>	2	--	0600908
<b>Description:</b> A) Altered pharmacokinetics and individualization of dosage regimen: intra-and extravascular dosage regimen, single and multiple administration. B) Clinical pharmacokinetics of selected drugs.			

### Fourth Semester (13 cr. h)

Course Name	Credit hours		Code No.
	L	P	
<b>Pharmacotherapeutics IV</b>	2	--	0600911
<b>Description:</b> A) <b>Oncology:</b> breast cancer, liver tumors, lung cancer, prostate cancer, gynecological cancer, drug management in these diseases. B) <b>Respiratory diseases:</b> bronchial asthma, chronic obstructive pulmonary disease, pulmonary tuberculosis, community and hospital acquired pneumonia, drug management in these diseases.			

Course Name	Credit hours		Code No.
	L	P	
<b>Clinical Pharmacokinetics II</b>	2	--	0600912
<b>Description:</b> Pharmacokinetics in selected populations: neonates, pediatric and elderly patients, pregnant and nursing women.			

Course Name	Credit hours		Code No.
	L	P	
<b>Pharmacoeconomics</b>	2	--	0600913
<b>Description:</b> The purpose of pharmacoeconomics is to describe and analyze the consequences and costs of pharmaceutical products and services, and the impact on individuals, healthcare systems and society. The course focuses on economic analysis of pharmacotherapy interventions, drug production and national drug expenditure.			

### Elective Courses

Course Name	Credit hours		Code No.
	L	P	
<b>Professional Communication Skills for Clinical Pharmacy Practice</b>	1	--	0600916
<b>Description:</b> Development of background knowledge and professional skills required to communicate with patients and the health care team and to overcome communication barriers in the provision of pharmaceutical care. Knowledge includes components of the communication model and characteristics of verbal and non- verbal communication means. Skills include empathic listening, effective questioning and interviewing, explaining, writing, oral presentation and team working.			

Course Name	Credit hours		Code No.
	L	P	
<b>Blood products, Plasma Expanders and Haemostatics</b>	1	--	0600917
<b>Description:</b> Management of anaemias and hemorrhagic conditions, blood groups, blood collection and administration (adverse effects and precautions), blood products, plasma expanders and haemostatics.			

Course Name	Credit hours		Code No.
	L	P	
<b>Rational Use of Antibiotics</b>	1	--	0600918
<b>Description:</b> Review of the clinical use of antibiotics in various infections and in immunocompromised patients, development of antibiotic policy to control microbial resistance			

Course Name	Credit hours		Code No.
	L	P	
<b>Enteral and Total Parenteral Nutrition</b>	1	--	0600919
<b>Description:</b> Nutritional intervention in patient care, indications for nutritional support, complications, nutritional requirements, nutrients and micronutrients, the nutritional support team (physician, pharmacist, dietitian, nurse), role of the pharmacist in enteral and parenteral nutrition: formula design and compounding, evaluation of drug-drug and drug-nutrient interactions, incompatibilities, pharmacokinetic monitoring, delivery of parenteral and enteral nutrition.			

Course Name	Credit hours		Code No.
	L	P	
<b>Pharmacokinetic Drug Monitoring</b>	1	--	0600920
<b>Description:</b> Role of pharmacokinetic monitoring in the management of drug therapy, cost effectiveness of PKDM, why and when is PK monitoring necessary, criteria for valid PKDM, practical considerations in effective PKDM, interpretation of results, development of a PKDM service, the PKDM request form, essentials of PK monitoring of selected drugs (aminoglycosides, digoxin, anticonvulsants, immunosuppressants, etc.).			

Course Name	Credit hours		Code No.
	L	P	
<b>Critical Care Pharmacy</b>	1	--	0600921
<b>Description:</b> Role of the pharmacist in intensive care units, special needs of the patients in these units, guidelines for proper use of drugs in intensive care units, handling drug problems related to these patients.			



Course Name	Credit hours		Code No.
	L	P	
<b>Dispensing of Sterile Products and Cytotoxic Drugs</b>	1	--	0600922
<p><b>Description:</b> Sterile products: policies and procedures for preparing sterile products including iv admixtures, preventing errors in preparation, preventing incompatibilities and stability problems, storage, labeling and verification prior to release.</p> <p>Cytotoxic drugs: dangers of cytotoxic drugs and health risks, guidelines for monitoring occupational exposure including environmental and biological monitoring, disposal of cytotoxic drugs, etc.</p>			

Course Name	Credit hours		Code No.
	L	P	
<b>Personalized Medicine</b>	1	--	0600923
<p><b>Description:</b> Development of knowledge concerning the genetic basis underlying variable drug response in individual patients and the use of the pharmacogenetic and pharmacogenomic approaches to personalize medicine, i.e. to achieve individual drug therapy with a reasonably predictive outcome, taking into account different patterns of drug response among geographically distinct populations.</p>			

Course Name	Credit hours		Code No.
	L	P	
<b>Neuropsychiatry in Pharmacy Practice</b>	1	--	0600924
<p><b>Description:</b> The course provides the students with an introduction to neuropsychiatry including the prevalence of psychiatric disorders, distinction between neuropsychiatry, neurology and neurosurgery and the cornerstones of treatment of psychiatric disorders. Schizophrenia, depression, anxiety and bipolar diseases are discussed together with the drugs used in psychiatric disorders.</p>			

Course Name	Credit hours		Code No.
	L	P	
<b>Novel Therapy Modalities</b>	<b>1</b>	<b>--</b>	0600925
<p><b>Description:</b> The course updates the student on novel therapies approved worldwide for management of various diseases. The therapies include old drugs reformulated in novel drug delivery systems to improve performance, to decrease side effects or to achieve drug targeting or include new drugs whether small organic molecules or protein drugs that offer new treatment potentials or overcome drug resistance among other advantages.</p>			