

Diploma in Hospital and Clinical Pharmacy

(24 cr. h)

First Semester (12 cr. h)

No.	Code No.	Courses	Credit hours	
			L	P
1	0601614	Hospital Pharmacy Services	2	---
2	0601615	Hospital Management	1	---
3	0601616	Pharmacoeconomics and Medicines Management	2	---
4	0601617	Clinical Pharmacokinetics	2	---
5	0601618	Compounded Sterile Preparations	1	---
6	0601619	Nuclear Pharmacy	1	---
7	0601620	Patient Care I	2	---
8		Elective Course	1	---
Total			12	

Second Semester (12 cr. h)

No.	Code No.	Courses	Credit hours	
			L	P
9	0601621	Research Methods and Biostatistics.	1	---
10	0601622	Pharmacovigilance	1	---
11	0601623	Interpretation of Clinical Laboratory Data	1	---
12	0601624	Patient Care II	2	---
13	0601625	Patient Care III	2	---
14	0601626	Hospital Pharmacy Training	--	2*
15	0601627	Dissertation	2	---
16		Elective Course	1	---
Total			12	

*1 credit hour hospital training is 4 hours weekly

Elective Courses

No.	Course Code	Courses	Credit hours	
			L	P
1	0601628	Pharmacogenomics	1	---
2	0601629	Nutrition for Hospitalized Patient	1	---
3	0601630	Current Topics in Health Care	1	---
4	0601631	Care of the Geriatric Patient	1	---

Course Description of Diploma in Hospital and Clinical Pharmacy

(24 cr. h)

First Semester (12 cr. h)

Course Name	Credit hours		Code No.
	L	P	
Hospital Pharmacy Services	2	---	0601614
<p>Description: The course introduces the students to various hospital pharmaceutical services including dispensing to both inpatients and ambulatory patients, dispensing during off-hours, dispensing of controlled drugs and ancillary supplies, pre-packaging, compounding and storage medications, ward and clinical services, patient medication profile and data collection, medication errors, hospital formulary, Pharmacy and Therapeutics Committee and policy making, education and training services of health professionals, patient compliance.</p> <p>PH7301 - Practice of Hospital Pharmacy</p> <ul style="list-style-type: none">• (Hospital pharmacy MSC/ Trinity College Dublin, The University of Dublin, Ireland)			

Course Name	Credit hours		Code No.
	L	P	
Hospital Management	1	---	0601615
<p>Description: The course introduces students to classical as well as modern organizational concepts and their application in hospitals. It covers functions and relationships of governing board, hospital administrator, and medical staff. It also examines the main hospital departments, focusing on objectives and functions, planning and design, organization, staffing, policies and procedures, information systems, performance measures and implementing quality and utilization management activities in hospitals. This course provides students with knowledge and skills necessary to be able to meet financial needs of hospitals and control hospital costs and focuses on leadership concepts, issues, theories and skills required for the development of successful and influential leaders.</p> <p>PH7308 - Health Services Management</p> <ul style="list-style-type: none">• (Hospital pharmacy MSC/ Trinity College Dublin, The University of Dublin, Ireland)			

Course Name	Credit hours		Code No.
	L	P	
Pharmacoeconomics and Medicines Management	2	---	0601616
<p>Description: The course introduces the students to the fundamental methods of Pharmacoeconomic (PE) analysis. It focuses on the theory, methods and application of technology assessment in health care. Application will be drawn from a variety of health care settings, including pharmaceuticals. Multiple self-directed learning activities are required. It also aims at equipping students with a real understanding of the major components of medicines supply system: Drug Selection, Procurement, Distribution and Use. It will focus on appropriate methods and techniques of drugs selection, inventory analysis and control, rational distribution, quality assurance as well as handling, storing and disposal.</p> <p>PH7308 - Health Services Management</p> <ul style="list-style-type: none"> • Hospital pharmacy MSC/ Trinity College Dublin, The University of Dublin, Ireland • PF6005 Pharmacoeconomics (Pharmacy - Clinical Pharmacy, MSc/ University College Cork, Ireland) 			

Course Name	Credit hours		Code No.
	L	P	
Clinical Pharmacokinetics	2	---	0601617
<p>Description: The course introduces the students to various aspects of clinical pharmacokinetics, therapeutic drug monitoring, mono and multi-exponential pharmacokinetics, non-compartmental pharmacokinetics and moment analysis. It also includes drug distribution and drug clearance mechanisms, IV infusion kinetics and kinetics following extra-vascular dosing, metabolic kinetics, multiple dose kinetics, non-linear pharmacokinetics, dosage regimen design, dosage individualization of drugs of low therapeutic index, especially in patients with compromised renal and hepatic function. Pharmacokinetics in selected populations (paediatrics, elderly patients, pregnant and nursing women) are also considered.</p> <ul style="list-style-type: none"> • PF6010 Pharmacology, Therapeutics and Rational Use of Drugs <p><u>AND</u></p> <ul style="list-style-type: none"> • PF6007 Pharmacotherapy III (Pharmacy - Clinical Pharmacy, MSc/ University College Cork, Ireland) 			

Course Name	Credit hours		Code No.
	L	P	
Compounded Sterile Preparations	1	---	0601618
<p>Description: The course provides students with a fundamental understanding of aseptic processing in hospital; repackaging of sterile products, IV admixtures preparation, storage and assigning beyond-use dates and handling of cytotoxic parenterals. The course prepares the students to take the proper decisions regarding the suitable diluents for compounding injectable preparations and to choose the proper combination of injectable formulae with no risk of incompatibilities. The course highlights the procedures needed for handling of cytotoxic parenterals and deals with injectable biotechnology products (reconstitution, dilution, storage.....). Mathematical aspects for compounded sterile preparations are also discussed.</p> <ul style="list-style-type: none"> • PH7305 - Aseptics and Good Manufacturing Practice (GMP). (Hospital pharmacy MSC/ Trinity College Dublin, The University of Dublin, Ireland) 			

Course Name	Credit hours		Code No.
	L	P	
Nuclear Pharmacy	1	---	0601619
<p>Description: The course introduces the students to the fundamental aspects of radio-active drugs for diagnosis and therapy. It includes procurement, storage, handling, preparation, compounding, dispensing and monitoring of radio-pharmaceuticals. It also provides the scientific knowledge and professional judgement required to improve and promote health through the safe and efficacious use of radio-active drugs for diagnosis and therapy.</p> <ul style="list-style-type: none"> • Nuclear Medicine: Science and Practice MSc (King's College, London) 			

Course Name	Credit hours		Code No.
	L	P	
Patient Care I	2	---	0601620
<p>Description: The course includes management of some disease states such as Haematology diseases (leukaemia, lymphoma, anaemia), liver diseases and cancer. The course covers also the critical care pharmacy.</p> <ul style="list-style-type: none"> • PF6007 Pharmacotherapy III (Pharmacy - Clinical Pharmacy, MSc/ University College Cork, Ireland) 			

Second Semester (12 cr. h)

Course Name	Credit hours		Code No.
	L	P	
Research Methods and Biostatistics	1	---	0601621
<p>Description: The course covers drug information resources for pharmacists, evidence-based practice approach research methodology and to different study designs and steps involved in carrying out a research project in different pharmacy domains. Data presentation and statistical concepts are discussed. The course will be taught using a combination of classroom lectures, case-based discussions, small-group and self-directed learning. Student participation both within the classroom, online and group work assignments are expected.</p> <ul style="list-style-type: none"> • PH7000 - Research Module Hospital pharmacy MSC/ Trinity College Dublin, The University of Dublin, Ireland • PF6001 Biostatistics/Critical Appraisal (Pharmacy - Clinical Pharmacy, MSc/ University College Cork, Ireland) 			

Course Name	Credit hours		Code No.
	L	P	
Pharmacovigilance	1	---	0601622
<p>Description: The course covers the basics in pharmacovigilance, introduction to pharmacoepidemiology, medical aspects of adverse drug reactions, global pharmacovigilance regulatory requirements and Periodic safety reports.</p> <ul style="list-style-type: none"> • PF6010 Pharmacology, Therapeutics and Rational Use of Drugs (Pharmacy - Clinical Pharmacy, MSc/ University College Cork, Ireland) 			

Course Name	Credit hours		Code No.
	L	P	
Interpretation of Clinical Laboratory Data	1	---	0601623
<p>Description: The course focuses on the common biochemical and haematological tests that are of clinical and diagnostic importance with a brief review of the physiology and pathology to explain basis of biochemical and haematological disorders. Further specific information on clinical and therapeutic relevance of each test is discussed. Drug-induced laboratory data changes are also considered.</p> <ul style="list-style-type: none"> • Clinical Foundations course module (Clinical Pharmacy MSC , , DEMONT FORT university, Leicester, UK) 			

Course Name	Credit hours		Code No.
	L	P	
Patient Care II	2	---	0601624
<p>Description: The course includes management of some disease states such as: gastrointestinal, renal and cardiovascular.</p> <ul style="list-style-type: none"> • PH7306 and PH7307 - Medical Specialties Part I and II (Hospital pharmacy MSC/ Trinity College Dublin, The University of Dublin, Ireland) • PF6009 Pharmacotherapy I AND PF6006 Pharmacotherapy II (Pharmacy - Clinical Pharmacy, MSc/ University College Cork, Ireland) 			

Course Name	Credit hours		Code No.
	L	P	
Patient Care III	2	---	0601625
<p>Description: The course introduces the students to infectious diseases and hospital infection control and rheumatic disorders.</p> <ul style="list-style-type: none"> • PF6006 Pharmacotherapy II : (Pharmacy - Clinical Pharmacy, MSc/ University College Cork, Ireland) 			

Course Name	Teaching h/week		Credit hours	Code No.
	L	P		
Hospital Pharmacy Training	---	8	2	0601626
<p>Description: Training in some selected hospital pharmacies is required. The training covers the most important functions of the hospital pharmacy, from dispensing to drug production, from quality assurance to clinical pharmacy such as structure organization and management of the hospital pharmacy, quality of pharmaceuticals, drug distribution system, stock management and information supply concerning drugs. Cooperation with the medical team is emphasized.</p> <ul style="list-style-type: none"> • Hospital pharmacy MSC/ Trinity College Dublin, The University of Dublin, Ireland 				

Course Name	Credit hours		Code No.
	L	P	
Dissertation	2	---	0601627
<p>Description: Students, individually or in group, formulate one or more research question(s) and develop a dissertation plan on the basis of the literature reviews. In writing out the research proposal the emphasis is on formulating concrete research questions and developing a research protocol allowing for a certain aspect of the use of medicine to be studied and / or for the mapping of the role of the pharmacist with regard to the topic.</p> <ul style="list-style-type: none"> • PF6008 Research Dissertation in Clinical Pharmacy (Pharmacy - Clinical Pharmacy, MSc/ University College Cork, Ireland) 			

Elective courses

Course Name	Credit hours		Code No.
	L	P	
Pharmacogenomics	1	---	0601628
<p>Description: The course provides students with an overview on how the individual genetic variations influence drug response, efficacy and adverse drug effects. How to apply genomics to manage different disorders, choose a drug, drug dose and duration of treatment. The course also covers the regulatory guidelines for pharmacogenetics in drug development. The Ethical issues in pharmacogenetics is also discussed</p> <ul style="list-style-type: none"> • Hospital pharmacy MSC/ Trinity College Dublin, The University of Dublin, Ireland 			

Course Name	Credit hours		Code No.
	L	P	
Nutrition for Hospitalized Patients	1	---	0601629
<p>Description: The course covers nutrition problems in hospitalized patient, nutrition assessment, metabolic requirements (energy requirements, protein, essential fatty acids, micronutrients and electrolytes). Enteral and parenteral nutrition (routes of administration, formulation, mathematical calculations of nutrition needs, complication, technical aspects of nutrition preparation and monitoring of nutritional support) are also discussed. Nutrition in selected populations (paediatrics, elderly patients, pregnant and nursing women) are considered. Diseases and specific nutrition support are also discussed (renal diseases, diabetes, cardiovascular diseases, GIT diseases, pulmonary diseases, HIV/AIDS, metabolic stress, anemia, neurological and mental disorders and neoplastic diseases).</p> <ul style="list-style-type: none"> • Nutrition MSc(King's College, London) 			

Course Name	Credit hours		Code No.
	L	P	
Current Topics in Health Care	1	---	0601630
<p>Description: The course explores current topics in health care and examines their relationship and potential impact on pharmacy practice. The course requires students to review current news periodicals and internet-based news sources. Cases will be assigned that require critical analysis and writing of executive summaries.</p> <p>Chicago State University https://www.csu.edu/collegeofpharmacy/academicaffairs/curriculum/coursedescription.htm</p>			

Course Name	Credit hours		Code No.
	L	P	
Care of the Geriatric Patient	1	---	0601631
<p>Description: The course reinforces general principles pertaining to the care of the geriatric patient. The goal is to enhance the student pharmacist's competence in caring for older adults. Topics will focus on the physiological, psychological, physical, ethical, social, economic and therapeutic issues of aging. Each lecture incorporates topics and activities pertinent to providing patient-centered care in the older adult populations.</p> <p>Chicago State University https://www.csu.edu/collegeofpharmacy/academicaffairs/curriculum/coursedescription.htm</p>			