Course Description Form /Stage 4

1. Course Name:

Industrial Pharmacy I

2. Course Code:

454PI p1

3. Semester / Year:

First and Second Semester

4. Description Preparation Date:

2/2024

5. Available Attendance Forms:

On campus

6. Number of Credit Hours (Total) / Number of Units (Total):

3 hours/week (Theory) , 2hours/ week (Practical), Total units=4

7. Course administrator's name (mention all, if more than one name)

- Name: Prof. Dr. Nawal Ayash Rajab /(First and Second semester)
  E-mail: : dr.nawalayash@copharm.uobaghdad.edu.iq
- Name: Lec. Dr. Nawar Michael/(second Semester)
  E-mail: nawwar.elias@copharm.uobaghdad.edu.iq
- Name : Assist Lec. Amani Shakir
  Email amani.hadi1201@copharm.uobaghdad.edu.iq
-

8. Course Objectives

Course Objectives	The subject aim to teach pharmacy students the steps and lines Upon which the Performulation processing of pharmaceutical dosage forms. This fundamental course provides the required principles to integrate knowledge of Pharmaceutical Technology in Performulation of perfect dosage form. It includes: milling, mixing, drying and filtration, besides sterilization to achieve a proper processing of dosage forr

9. Teaching and Learning Strategies

Strategy	1-Lectures and Presentation 2-Discussions 3- Laboratory experiments 4- Inverted classrooms

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
2nd Semester					
1	3	Understand the Principles of pharmaceutical	fluid mixing; Flow characteristics;	- Lectures -White board -Data show	-Written exams - Oral exams

		processing; mixing	mechanisms of mixing; mixing equipment's; batch and continuous mixing	-Power point -Explanatory diagrams -Scientific YouTube videos -laboratory experiments	-Laboratory reports
2	3	Knowledge of the mixer and best selection of mixer	batch and continuous mixing; mixer selection.		
3	3	Describe the Milling	pharmaceutical application of milling; size distribution and measurement; Theory of comminution		
4	3	Understand types of mills	types of mills; factors influencing milling; selection of mill techniques and techniques of milling		
5	3	Understand Drying industrial process	Definition of drying; purpose; Psychrometry (humidity measurement); theory of drying; drying of solids,		
6	3	Define drying equipment's	classification of dryer; specialized drying methods		
7	3	Understand process of Clarification and filtration	Theory; filter media; filter aids; selection of drying method; non-sterile and sterile		

			operations; integrity testing		
8	3	Understand the equipment's and systems (commercial and laboratory) of filtration.	equipment's and systems (commercial and laboratory) of filtration		
9	3	Describe Sterilization; validation of methods; microbial death kinetics	Sterilization; validation of methods; microbial death kinetics		
10	3	To understand Methods of sterilization	Methods of sterilization (thermal and non-thermal); mechanisms; evaluation.		
11	3	Describe Pharmaceutical dosage forms; sterile products	development; formulation		
12	3	Learn production; processing of sterile product	production; processing; quality control.		

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	The Theory and Practice of Industrial Pharmacy by Leon Lachman et al.
Main references (sources)	Pharmaceutics: The Science of Dosage Form Design, by Michael E. Aulton
Recommended books and references (scientific journals, reports...)	Ansel's Pharmaceutical Dosage Forms and Drug Deliv Systems by Loyd Allen
Electronic References, Websites	

Course Description Form

1. Course Name:
Organic Pharmaceutical Chemistry II
2. Course Code:
445PcOp2
3. Semester / Year:
2023-2024 / First semester
4. Description Preparation Date:
19 /2/2024
5. Available Attendance Forms:
On campus
6. Number of Credit Hours (Total) / Number of Units (Total)
45 hr/ 4 units
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Mohammed Kamil Hadi Email: **mohammed.hadi@copharm.uobaghdad.edu.iq** Name: Dr. Ayad Al-Hamashi **E-mail: a.alhamashi@copharm.uobaghdad.edu.iq** Name: Dr. Zainab Abdelhadi Dakhel **E-mail: Zainab.abd@copharm.uobaghdad.edu.iq** Lab instructors Name: Maadh Q. Abdulkadir Email: Moaz.Abd@copharm.uobaghdad.edu.iq Name: : Yasir Falih Muhsin Email: Yasser.F@copharm.uobaghdad.edu.iq Name: Wurood Shihab Ahmed Email: wrood.s@copharm.uobaghdad.edu.iq
8. Course Objectives

Course Objectives	1-Study the relationship between the chemical structure of compounds and their efficacy (such as some drugs used in the treatment of autonomic nervous system disorders and drugs used in the treatment of adrenal system disorders).

	2- Studying the pharmacokinetics of a drug within an organism includes mechanisms of absorption, metabolism, and excretion. 3- Preparing students to understand the chemical structures of compounds and their relationship to the biological activities of the human body.
9. Teaching and Learning Strategies	
Strategy	**Knowledge:** 1- How to handle chemical compounds 2- To know the methods of manufacturing some compounds and medications. 3- Performing practical experiments for the manufacturing and purification of compounds **Skills:** 1- Acquiring the skill of preparing compounds and medications 2- Acquiring skill in using different methods in the production and preparation of medications 3- Acquiring the skill of how to handle chemical compounds 4- Acquiring the skill of writing practical reports **Learning and teaching methods:** 1- The theoretical lectures 2- Conduct scientific experiments 3- Seminars 4- The daily duties 5- The written exams 6- Curriculum and supportive books 7- Explanatory videos

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1-4	13	Cholinergic agents	cholinergic receptors and their subtypes Cholinergic blocking agent; structure-activity relationships (SAR); Solanaceous alkaloid and analogues; synthetic cholinergic blocking agents and products; ganglionic blocking agents (neuromuscular blocking agents)	Lectures	Oral and written exam
5-8	8	Adrenergic agents	Adrenergic receptors; Drugs affecting Adrenergic neurotransmission; Sympathomimetic agents; Adrenergic receptor antagonists	Lectures	Oral and written exam
9-11	10	Analgesic agents	Analgesic receptors, endogenous opioids; Products; Antitussive agents; Anti-inflammatory analgesics	Lectures	Oral and written exam
12-14	10	CNS depressant	Benzodiazepines and related compounds; Barbiturates; CNS depressant with skeletal muscle relaxant properties; Antipsychotics	Lectures	Oral and written exam
15	4	CNS Stimulants	Central sympathomimetic agents Antidepressants	Lectures	Oral and written exam

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

20 marks for practical work in the lab and quiz

20 marks for mid-term exam and quiz

60 marks for final exam

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Wilson and Gisvold Textbook of Orga medicinal and Pharmaceutical chemist Delgado JN, Remers WA, (Eds); 12th e 2011
Main references (sources)	Wilson and Gisvold Textbook of Orga medicinal and Pharmaceutical chemist Delgado JN, Remers WA, (Eds); 12th e 2011
Recommended books and references (scientific journals, reports…)	Wilson and Gisvold Textbook of Orga medicinal and Pharmaceutical chemist Delgado JN, Remers WA, (Eds); 12th e 2011
Electronic References, Websites	https://pubmed.ncbi.nlm.nih.gov/

Course Description Form

1. Course Name:
Organic Pharmaceutical Chemistry III
2. Course Code:
451 PcOp3
3. Semester / Year:
Second semester/ 2023-2024
4. Description Preparation Date:
21/2/2024
5. Available Attendance Forms:
On campus
6. Number of Credit Hours (Total) / Number of Units (Total)
45 hr / 4 units
7. Course administrator's name (mention all, if more than one name)
Name: Email: Ammar A. Razzak Mahmood Amar.mahmoud@copharm.uobaghdad.edu.iq Dr. Mohammed Kamil Hadi **mohammed.hadi@copharm.uobaghdad.edu.iq** Dr. Zainab Abdelhadi Dakhel **Zainab.abd@copharm.uobaghdad.edu.iq** Lab instructors Name: **Sarah sattar jabbar** Email: Sarra.ali@copharm.uobaghdad.edu.iq Name: Abdul Hafeedh H. Abdul-Wahab Email: abd.abd@copharm.uobaghdad.edu.iq Name: Wurood Shihab Ahmed Email: wrood.s@copharm.uobaghdad.edu.iq
8. Course Objectives

Course Objectives	1- Study of the biological function of certain neurotransmitters within the human body

	2- Studying the pharmacokinetics of a drug within a living organism includes mechanisms of absorption, metabolism, and excretion 3- Study the relationship between the chemical structure of compounds and their activity (such as antibiotics, anticancer agents) 4- Preparing students to understand the chemical compositions of compounds and their relationship to the biological activities in the human body
9. Teaching and Learning Strategies	
Strategy	**Knowledge:** 1- To know the methods of manufacturing some compounds and medications. 2- How to handle chemical compounds 3- Performing practical experiments for the manufacturing and purification of compounds **Skills:** 1- Acquiring skill in using different methods in the production and preparation of medications 2- Acquiring the skill of how to handle chemical compounds 3- Acquiring the skill of writing practical reports **Learning and teaching methods:** 1-The theoretical lectures 2- Conduct scientific experiments 3- Seminars 4- The daily duties 5- The written exams 6- Curriculum and supportive books 7- Explanatory videos
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-6	18	β-Lactam antibiotics (Penicillins) (β-Lactamase inhibitors,Cephalosporins,Monobactams,Aminoglycosides,Tetracylines,Macrolides,Lincomycins,Polypeptides,Unclassified antibiotics, Newer antibiotics)	Antibacterial Antibiotics	Lectures	Oral and written exam
7-8	4	The Classification and Biochemistry of Viruses Nucleoside Antimetabolites: Inhibiting Viral Replication	Antiviral drugs	Lectures	Oral and written exam
9-15	23	Alkylating agents (Antimetabolite, Antibiotics, Plant products, Protein kinase inhibitors, Miscellaneous compounds)	Anti-neoplastic agents	Lectures	Oral and written exam

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

20 marks for practical work in the lab and quiz

20 marks for mid-term exam and quiz

60 marks for final exam

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Wilson and Gisvold Textbook of Organic medicinal and Pharmaceutical chemistry, Delgado JN, Remers WA, (Eds); 12th ed, 2011

Main references (sources)	Wilson and Gisvold Textbook of Organic medicinal and Pharmaceutical chemistry, Delgado JN, Remers WA, (Eds); 12th ed, 2011
Recommended books and references (scientific journals, reports…)	Wilson and Gisvold Textbook of Organic medicinal and Pharmaceutical chemistry, Delgado JN, Remers WA, (Eds); 12th ed, 2011
Electronic References, Websites	https://pubmed.ncbi.nlm.nih.gov/

Course Description Form

1. Course Name:
Pharmacology II
2. Course Code:
450PtPc3
3. Semester / Year:
Semester 1/2023-2024
4. Description Preparation Date:
19/3/2024
5. Attendance:
In class
6. Number of Credit Hours (Total) / Number of Units (Total)
45 hr.
7. Course administrator's name (mention all, if more than one name)
Name: Assistance Professor Sarmed Kadhim Email: Name: Assistance Professor Ahmed Hamid Email: ahmed.abd@copharm.uobaghdad.edu.iq Name: Lecturer Alaa Radhi Email: alaaradhi@copharm.uobaghdad.edu.iq
8. Course Objectives

Course Objectives	To introduce the pharmacy students to the general pharmacology of the central nervous system and to the various drug groups used in the treatment of CNS diseases or drugs altering its function. The student will be introduced to the various drugs used in the management of cardiovascular diseases. Moreover the course will cover the drugs affecting the gastrointestinal and respiratory systems.

9. Teaching and Learning Strategies

Strategy	Types of teaching methods include lecture-based instruction, gro learning, individual learning and interactive/participative methods throu the use of point solutions apparatus.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1		To introduce t pharmacy students to t general pharmacology the cent nervous syst and to t various dr groups used the treatment CNS diseases drugs altering function.	Introduction CNS pharmacology	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams a quizes throu the use of po solutions apparatus a reports practical experiences.
2		To introduce t pharmacy students to t various dr groups used CNS stimulan	CNS stimulan	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica

					experie es.
3		To introduce t pharmacy students to t various dr groups used Anxiolytic a Hypnotic drug	Anxiolytic a Hypnotic dru	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica experie es.
4		To introduce t pharmacy students to t various dr groups used General a Local Anesthetics .	General a Local Anesthetics.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica experie es.
5		To introduce t pharmacy students to t various dr groups used Antidepressan drugs.	Antidepressa drugs.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica

					experie es.
5		To introduce t pharmacy students to th various drug groups used a Antipsychoti (neuroleptic drugs.	Antipsychotic (neuroleptic) drugs.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica experie es.
6		To introduce t pharmacy students to t various dr groups used Opioid analgesics a antagonists .	Opioid analgesics a antagonists.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica experie es.
7		To introduce t pharmacy students to t various dr groups used the treatment neurodegenera ve diseases.	Treatment neurodegener ve diseases.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica

					experie es.
8		To introduce t pharmacy students to t various dr groups used Antiepileptic Drugs.	Antiepileptic Drugs.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica experie es.
8		To introduce t pharmacy students to t various dr groups used Diuretics.	Diuretics.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica experie es.
10		To introduce t pharmacy students to t various dr groups used The treatment heart failu (HF).	The treatme of heart failu (HF).	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica

					experie es.
11		To introduce t pharmacy students to t various dr groups used Antiarrhythmi drugs .	Antiarrhythm drugs.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica experie es.
12		To introduce t pharmacy students to t various dr groups used The treatment heart failu (HF).	Antihypertens e drugs.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica experie es.
13		To introduce t pharmacy students to t various dr groups used Antianginal Drugs.	Antianginal Drugs.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica

					experie es.
13		To introduce t pharmacy students to t various dr groups affecti the blood .	Drugs affecti the blood.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica experie es.
14		To introduce t pharmacy students to t various dr groups used Antihyperlipid mic drugs.	Antihyperlipi mic drugs.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica experie es.
14		To introduce t pharmacy students to t various dr groups used Gastrointestina and antieme drugs.	Gastrointestin and antieme drugs.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica

					experie es.
15		To introduce t pharmacy students to t various dr groups used The treatment respiratory system disease	Drugs acting the respirato system.	lecture-based instruction, gro learning, individual learning a interactive/part pative metho through the use point solutio apparatus.	Exams and quizes through the use point solution apparat and reports practica experie es.

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

15 points for the mid term
5 points for the daily preparation or exams
20 points for the lab.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Lippincott Pharmacology Last edition**
Main references (sources)	**Pharmacology by rang Last edition**
Recommended books and references (scientific journals, reports…)	● **British pharmacopoeia** ● **United State Pharmacopoeia** ● **European Pharmacopeia**
Electronic References, Websites	The Internet and PowerPoint

Course Description Form

13. Course Name:	
Pharmacology III	
14. Course Code:	
450 PtPc3	
15. Semester / Year:	
Semester	
16. Description Preparation Date:	
14−2−2024	
17. Available Attendance Forms:	
Attendance	
18. Number of Credit Hours (Total) / Number of Units (Total)	
3 hours therotical+2 hr practical(5 hrs/week)	
19. Course administrator's name (mention all, if more than one name)	
Name: PhD Ahmed Hamed Jwaid Email: ahmed.abd@copharm.uobaghdad.edu.iq PhD Ali Faris hassan Email: ali.hussein@copharm.uobaghdad.edu.iq	
20. Course Objectives	
Course Objectives	Study the mechanisms of action of medications that responsible for regulation of hormonal disturbances in the body
21. Teaching and Learning Strategies	
Strategy	• Using YouTube video to show some mechanisms of actions. • Using some schemes or diagrams from the net • Frequent Examination Using clicker device to achieve sudden exam

22. Course Structure					
In class questions, exams	In-Class-Online				

23. Course Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

24. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Lippincott® Illustrated Reviews: Pharmacology Seventh Edition
Main references (sources)	---
Recommended books and references (scientific journals, reports…)	Research gate
Electronic References, Websites	Google-YouTube

Course Description Form

25. Course Name:
General toxicology
26. Course Code:
453PtGt
27. Semester / Year:
2024
28. Description Preparation Date:
19-3-2024
29. Available Attendance Forms:
Electronic and in class
30. Number of Credit Hours (Total) / Number of Units (Total)
20
31. Course administrator's name (mention all, if more than one name)

Name: Dr. Ali Jabbar abdulhussein & Dr. Farah Kais abdul-wahab
Email: ali.alhosein@copharm.uobaghdad.edu.iq
farah.abd@copharm.uobaghdad.edu.iq

32. Course Objectives

Course Objectives	1-explain the toxicology concepts and materials 2-explain the mechanism of toxicity 3- explain the sign and symptoms 4- management and chelators being used 5-Determine how to classify toxic agents characteristics of exposure (route, site, duration & frequency)

33. Teaching and Learning Strategies

Strategy	○ • Distinguish common toxicology concepts. ○ Encourage students to understand the mechanism of toxicity. - Help students to diagnose the materials and the case. - Do the first aid to patients. - Determine how to classify toxic agents.

34. Course Structure

In class questions, exams	In-Class- Online	**Havey metals** **Chemical Carcinogenesis** **CNS toxicity** **Immune toxicity** **Blood toxicity**	Students will be able to identify the toxicity of different types of chemicals and body response with the major management and treatment	1	12
In cl questions, exams	In-Class- Online	**ntroduction to toxicology** **Absorption and stribution ofe toxicant hrough skin and GIT** **istribution and elimination**	udents will be able to to understand the toxicity ncepts and the movement of toxicant in the body system		12

		Evaluation of isoned patients **xic response of liver** **xic response of kidney** **Specific ephrotoxicant** **Classes of genotoxic carcinogens** **The role of harmacist in oison centre**			

35. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
36. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Casarette and Doulls toxicology 8 edition
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

37.Course Name:
Biochemistry II
38.Course Code:
447 PBP
39.Semester / Year:

Second /Third

40.Description Preparation Date:

29/2/2024

41.Available Attendance Forms:

In-person attendance

42.Number of Credit Hours (Total) / Number of Units (Total)

5/4

43.Course administrator's name (mention all, if more than one name)

Dr. Ali A. Kasim	ali.qasem@copharm.uobaghdad.edu.iq
Dr. Senaa S. Amin	sena.khedr@copharm.uobaghdad.edu.iq
Dr. Zahraa M.A. Naji	zahraa.naji@copharm.uobaghdad.edu.iq
Dr. Amnah A. Abd	amna.a@copharm.uobaghdad.edu.iq
Najwan Kaisar Fakree	najwankaisar@copharm.uobaghdad.edu.iq

44.Course Objectives

Course Objectives	• Learning of the fundamentals of cellular me lipids, and amino acids and their associatio diseases. • Providing students with the necessary techn biochemistry.

45.Teaching and Learning Strategies

Strategy	• Presentation and recitation • Interactive discussions • Brainstorming • Research and induction

46. Course Structure

Week	Hours	Required Learning Outcomes	Unit	Learning method	Evaluation method
1	1	The application of the laws of thermo-dynamics in biological systems, the relationship between endothermic and exothermic	Bioenergetics: The Role of ATP	Lectures, Discussions, and Reports	Exam and classroom activities

		reactions, the function of adenosine triphosphate as the "energy currency" for cells.			
1	2	Explain what is meant by anabolic, catabolic and combined metabolic pathways; A description of the metabolic process at the tissue, organ, and subcellular levels; Methods of regulating of the flow of metabolites through metabolic pathways; How to provide metabolic fuel supply in both the fed and the fasting states.	Overview of metabolism and the provision of metabolic fuels	=	=
2	3	Description of the pathway of glycolysis, its regulation, and the possibility of its occurrence under anaerobic conditions. The differences between the roles of glucokinase and hexokinase in glycolysis; Description of the pyruvate dehydrogenase reaction and its regulation.	Glycolysis and the oxidation of pyruvate	=	=
3	3	Description of the citric acid cycle reactions, its	The citric acid cycle	=	=

		regulation, and emphasizing the reactions that lead to the production of reducing equivalents; Explain the import-ance of vitamins in citric acid cycle; Explain how the cycle provides a pathway for amino acid catabolism and a pathway for their synthesis.			
4	3	Description of the four protein complexes involved in the transfer of electrons through the respiratory chain; How electron transfer through the respiratory chain generates ATP through the process of oxidative phosphor-rylation; List examples of the common toxins that interfere with electron transport or oxidative phosphorylation and identify their sites of action.	The respiratory chain and oxidative phosphorylation	=	=
5	3	Description of the structure of glycogen and its importance as a carbohydrate store; The synthesis and catabolism of	Metabolism of glycogen	=	=

		glycogen and how the two processes are regulated; Description of the different types of glycogen storage diseases.			
6	3	The importance of gluconeogenesis in glucose homeostasis; the pathway of gluconeogenesis, and how glycolysis and gluconeogenesis are mutually regulated; how plasma glucose concentration is maintained within certain limits in the fed and the fasting states.	Gluconeogenesis and the control of blood glucose	=	=
7	Mid-term examination				
8	3	The pentose phosphate pathway and its importance; the uronic acid pathway and its importance; the consequences of consuming large amounts of fructose; the structure and physiological importance of galactose; the consequences of genetic defects of glucose-6-	The Pentose Phosphate Pathway and other pathways of hexose metabolism	=	=

		phosphate dehydrogenase deficiency, the uronic acid pathway, and fructose and galactose metabolism.			
9	1	Indicate the intermediate compounds of the citric acid cycle and glycolysis that are precursors of certain amino acids; the key role of transaminases in amino acid metabolism; Explain the process by which 4-hydroxyproline, 5-hydroxylysine and selenocysteine are formed in some proteins; the synthesis of some amino acids through the assimilation of free ammonia; the synthesis of some amino acids using other amino acids.	Biosynthesis of the nutritionally nonessential amino acids	=	=
9	2	Description of protein metabolism, its functions, its speed determinants, and cellular protein	Catabolism of proteins and of amino acid nitrogen	=	=

		catabolism pathways; the central roles of transaminases, glutamate dehydrogenase, and glutaminase in nitrogen metabolism; description of the cycle of urea synthesis, its regulation, and its metabolic defects.			
10	1	Illustration of the catabolic pathways of amino acids' carbon skeletons and their major metabolic fates; the clinically important metabolic disorders in this regard.	Catabolism of the carbon skeletons of amino acids	=	=
10	1	The involvement of amino acids as precursors in the biosynthesis variety of biological molecule other than proteins.	Conversion of amino acids to specialized products	=	=
10	1	The structure and nomenclature of porphyrins; the pathway of heme synthesis and its catabolism; the causes and general clinical	Porphyrins and bile pigments	=	=

		features of different porphyrias.			
11	3	Fatty acids transportation in the blood; activation of fatty acids and their transportation into mitochondria for oxidation; the beta oxidation pathway; ketone bodies formation and the pathological conditions that accompany their excessive formation.	Oxidation of fatty acids	=	=
12	3	Description of the acetyl-CoA acetylase reaction and the mechanisms of regulating its activity to control the rate of fatty acid synthesis; the synthesis of long-chain fatty acids and required cofactors; the synthesis of polyunsaturated fatty acids.	Biosynthesis of fatty acids and eicosanoids	=	=
13	3	The catabolism of triacylglycerols and the fate of the resulting metabolites;	Metabolism of acylglycerols and sphingolipids	=	=

		the synthesis of triacylglycerols, inositol phosphoglycerols, cardiolipin, triacylglycerols, plasmogens, and platelet-activating factor; the role of different phospholipases in the degradation and remodeling of phospholipids; the synthesis of sphingolipids.			
14	3	Description of the four main plasma lipoproteins and their structure; the transport of lipoproteins to and from the liver and the role of the liver in their metabolism; the metabolism of lipoproteins in the blood and the delivery of cholesterol from the liver to extrahepatic tissues; the mechanisms by which cholesterol is delivered from extrahepatic tissues and returned to the liver by the reverse cholesterol transport;	Lipid transport and storage	=	=

		the processes by which fatty acids are released from triacylglycerol stored in adipose tissue and the role of brown adipose tissue in generating body heat.			
15	3	The importance of cholesterol as a basic structural component in the body, and its pathological role; the pathway of cholesterol biosynthesis and its regulation; the role of plasma lipoproteins in transporting cholesterol among tissues.	Cholesterol synthesis, transport, and excretion	=	=

47.Course Evaluation

Mid-term examination (15 marks)

Quiz and homework (5 marks)

Practical work (20 marks)

Final examination (60 marks)

48.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Harper's Illustrated Biochemistry, 32 ed.
Main references (sources)	Lippincott Illustrated Reviews: Biochemist Lehninger Principles of Biochemistry, 8th e
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Communication skills
2. Course Code:
455 CpCs
3. Semester / Year:
Second semester/ Fourth
4. Description Preparation Date:
15/02/2024
5. Available Attendance Forms:
On campus
6. Number of Credit Hours (Total) / Number of Units (Total)
2 Hours /2 Units
7. Course administrator's name (mention all, if more than one name)
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8. Course Objectives

Course Objectives	Communication skill is one of the missions of pharmacy ca practice, aims to develop a conventional relationship between pharmacist and patients, in which information is exchanged, hold in confidence and used to optimize patient care through appropriate drug therapy. This course is intended to pharmacist provide better care to patients, and focus on communication skills necessary to build the kind of relationship that result in improved therapeutic outcomes.
9. Teaching and Learning Strategies	
Strategy	Lectures Seminars Simple quizzes Brainstorming questions, Discussion ● Interactive discussions ● Presentation and recitation

10. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	This topic outlines: 1-Pharmacists' Responsibility in Patient Care	Patient-Centered Communication Pharmacy Practice	Lectures, Discussions	Simple quizzes

		2-Importance of Communication in Meeting Your Patient Care Responsibilities 3-What is Patient-Centered Care? 4-Understanding Medication Use from the Patient Perspective 5-Encouraging a More Active Patient Role in Therapeutic Monitoring 6-A Patient-Centered View of the Medication Use Process			
2	2	This topic outlines: 1-Components of the Interpersonal Communication Model 2-Personal Responsibilities in the Communication Model 3-In Search of the Meaning of the Message 4-Importance of Perception in Communication	Principles Elements Interpersonal Communication	Lectures, Discussions	Simple quizzes
3	2	1-Nonverbal versus Verbal Communication 2-Elements of Nonverbal Communication 3-Distracting Nonverbal Communication 4-Detecting Nonverbal Cues in Others 5-Dealing with Sensitive Issues 6-Overcoming Distracting Nonverbal Factors	Nonverbal type communication.	Lectures, Discussions	Simple quizzes
4	2	This topic outlines: 1-Environmental Barriers 2-Personal Barriers 3-Administrative Barriers	Barriers communication.	Lectures, Discussions	Simple quizzes

		4-Time Barriers			
5	2	This topic outlines: 1-Listening Well 2-Empathic Responding 3-Attitudes Underlying Empathy 4-Nonverbal Aspects of Empathy 5-Problems in Establishing Helping Relationships	Listening a empathic responding dur communication.	Lectures, Discussions	Simple quizzes
6	2	This topic outlines: 1-Defining Assertiveness 2-Theoretical Foundations 3-Assertiveness Techniques 4-Assertiveness and Patients 5-Assertiveness and Other Health Care Professionals 6-Assertiveness and Employees 7-Assertiveness and Employers 8-Assertiveness and Colleagues	Assertiveness	Lectures, Discussions	Simple quizzes
7	2	This topic outlines: 1-Components of an Effective Interview 2-Interviewing as a Process 3-Interviewing in Pharmacy Practice 4-Interviewing and Patient-Reported Outcomes 5-Documenting Interview Information 6-Interviewing Using the Telephone	Interviewing a assessment.	Lectures, Discussions	Simple quizzes
8	2	This topic outlines: 1-False Assumptions About Patient	Helping patients manage therapeu regimens.	Lectures, Discussions	Simple quizzes

		Understanding and Medication Adherence 2-Techniques to Improve Patient Understanding 3-Techniques to Establish New Behaviors 4-Techniques to Facilitate Behavior Change 5-Theoretical Foundations Supporting Behavior Change 6-Applying Motivational Interviewing Principles and Strategies			
9	2	This topic outlines: Essential component of effective patient counseling and how to provide such counseling	Patient counseli counseling ch list; point-by-p discussion; counseling scena	Lectures, Discussions	Simple quizzes
10	2	This topic outlines: 1-Introduction to Medication Safety Issues 2-Types of Errors: Possible Causes and Potential Solutions 3-General Strategies to Enhance Patient Safety When Errors Occur	Medication saf and communicat skills.	Lectures, Discussions	Simple quizzes
11	2	This topic outlines : Communication with A-Older Adults B-Communication Impairments C-Patients with Disabilities D-Terminally Ill Patients E-Patients with HIV or AIDS F-Patients with Mental Health Problems G-Suicidal Patients H-Patients with Low Health Literacy I-Cultural Competence J-Caregivers	Strategies to m specific needs.	Lectures, Discussions	Simple quizzes

12	2	This topic outlines: 1-Need for Educating Children and Their Parents About Medicines 2-Importance of Using a Patient-Centered Interaction Style 3-Understanding the Cognitive Developmental Level of a Child 4-General Principles for Communicating with and Empowering Children, Toddlers and Preschool Children School-Age Children, Adolescents	Communicating with children a elderly ab medications.	Lectures, Discussions	Simple quizzes
13	2	This topic outlines: 1-Pharmacist Roles in Collaborative Medication Therapy Management 2-Barriers and Facilitators to Collaborative Partnerships 3-Initial Steps to Developing Collaborative Arrangements 4-Building Trust: The Cornerstone to Successful Collaborative Arrangements 5-Using Communication Skills to Enhance Collaborative Relationships 6-Six Critical Behaviors Within Collaborative Partnerships		Lectures, Discussions	Simple quizzes
14	2	This topic outlines: 1-Use of the Internet 2-Use of E-mail in Society		Lectures, Discussions	Simple quizzes

		3-Patient–Provider Use of Electronic Communication 4-Interprofessional Use of Electronic Communication 5-Patient Privacy and System Security Issues 6-Liability and the Therapeutic Relationship 7-Establishing Pharmaceutical Care Services Using Electronic Communication 8-Composing and Managing E-mail Messages			
15	2	This topic outlines: 1-Ethical Patient Care 2-A Pharmacy Code of Conduct for a Modern World 3-Seven Key Principles Guiding Ethical Conduct 4-How Pharmacists Can Resolve Ethical Dilemmas 5-Analyzing Patient Cases 6-Contemporary Topics in Pharmacy Care		Lectures, Discussions	Simple quizzes

11. Course Evaluation	
25 midterm exam + 5 seminars + 70 Final exam	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if ar	***Communication Skills in Pharmacy Practice***
Main references (sources)	A Handbook for Teaching Courses in Pharmacy Communications.
Recommended books and references (scientific journals, reports...)	Skills for Communicating with Patients. Third Edition. 2013.
Electronic References, Websites	Review articles