

Academic Program Description Form

University Name: Al-Nahrain

Faculty/Institute: College of Pharmacy

Scientific Department: Pharmacology and Toxicology Department

Academic or Professional Program Name: Pharmacology and Toxicology

Final Certificate Name: Bachelor's Degree

Academic System: Courses

Description Preparation Date: 2024-2025

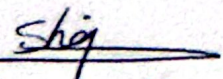
File Completion Date: 24\3\2025

Signature: 

Head of Department Name:

Dr. Heba Majed Hameed

Date: 24-3-2025

Signature: 

Scientific Associate Name:

Asst.-prof.-Dr. Shaymaa H. Hammad

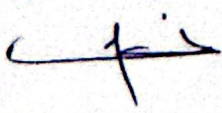
Date: 24/3/2025

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department: Dr. Noor Ad

Date: 24/3/2025

Signature: 



Approval of the Dean

Prof. Dr. Haydar B. Samir

**Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department**



Academic Program and Course Description Guide

2024

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

1. Program Vision

To establish a high efficient pharmacist for healthcare community.

2. Program Mission

To improve drugs knowledge and research skills by understand the functions of body organs, high quality pharmacology concept learning, and how overcome the toxicity of compounds in a responsible manner.

3. Program Objectives

- a. Study the types of drugs to treat disease
- b. Study the adverse effect
- c. Study the contraindication of drugs
- d. Study the pharmacokinetics and pharmacodynamics of drugs
- e. Study of drug – drug interactions
- f. Study the functions of human organs

4. Program Accreditation

جاري الحصول عليه

5. Other external influences

Is there a sponsor for the program?

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements	8 (19 credits)			
Department Requirements	8 (19 credits)			
summer training	لا يوجد			
Other				

* This can include notes whether the course is basic or optional.

7. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
First	PHC114	Medical terminology	theoretical	
Second	PHC214	Physiology I	theoretical	Practical
Second	PHC224	Physiology II	theoretical	Practical
Third	PHC322	Pharmacology I	theoretical	
Forth	PHC411	Pharmacology II	theoretical	Practical
Forth	PHC421	Pharmacology III	theoretical	
Forth	PHC424	General toxicology	theoretical	Practical
Fifth	PHC516	Clinical toxicology	theoretical	Practical
Postgraduate Master	PHG111	Molecular Pharmacology	theoretical	
	PGH122	Advanced Pharmacology	Theoretical	
	PHG127	Research methodology	Theoretical	

8. Expected learning outcomes of the program
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Knowledge	
Learning Outcomes 1	Learning Outcomes Statement 1
Skills	
Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
Ethics	
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

Cognitive goals

A1. How to dispense drugs

A2. Patient education about drug adverse effect

A3. How to communicate with patient and educate him

A4. How to prepare lectures and seminars

The skills goals special to the program .

B1. Drug use skill

B2. Blood pressure measures skill

B3. patient education skill

Teaching and Learning Methods

Board ,smart board and power point

10. Evaluation methods

Theoretical examination

Practical examination

Discussion groups

Practical experiment

11. Faculty

Faculty Members

Academic Rank	Specialization	Special Requirements/Skills (if applicable)	Number of the teaching staff

	General	Special		Staff	Lecturer
Professor	Pharmacy	Pharmacology		2	اد حيدر بهاء اد هيثم محمود
Lecturer	Pharmacy	Pharmacology		2	م د محمد فريد م د هبة ماجد
Assistant lecturer	Pharmacy	Physiology		1	م م سارة حيدر
Trainee Pharmacist	Pharmacy	/		6	رغد رحيم غدير عبدالستار منى حيدر رسل عبدالامير فاطمة عدنان علا رباح

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12. Acceptance Criterion

According to ministry of higher education and scientific research centrally admission.

13. The most important sources of information about the program

Dean committee in Iraq
World health organization
Books and scientific sites

14. Program Development Plan

A special advisement is done for personal development to give the student the opportunity to enroll in the pharmacist community and other scientific community event

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First	PHC114	Medical terminology	basic	√	√	√	√	√	√	√		√	√		
Second	PHC214	Physiology 1	basic	√	√	√	√	√	√	√		√	√		
	PHC224	Physiology 2	basic	√	√	√	√	√	√	√		√	√		
Third	PHC322	Pharmacology 1	basic	√	√	√	√	√	√	√		√	√		
Fourth	PHC411	Pharmacology 2	basic	√	√	√	√	√	√	√		√	√		
	PHC421	Pharmacology 3	basic	√	√	√	√	√	√	√		√	√		
	PHC424	General Toxicology	basic	√	√	√	√	√	√	√		√	√		
Fifth	PHC516	Clinical	basic	√	√	√	√	√	√	√		√	√		

		Toxicology													
Postgraduate master	PHG111	Molecular Pharmacolog y	basic	√	√	√	√	√	√	√		√	√		
	PHG122	Advanced Pharmacolog y	basic	√	√	√	√	√	√	√		√	√		
	PHG127	Research methodology	basic	√	√	√	√	√	√	√		√	√		

- Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

Course Description Form

1. Course Name:	
Pharmacology II	
2. Course Code: PHC411	
3. Semester / Year:	
1 st Semester / Fourth	
4. Description Preparation Date:	
2-4-2025	
5. Available Attendance Forms:	
Theory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Email: dr.hayder.bahaa@nahrainuniv.edu.iq dr.haitham.mahmod@nahrainuniv.edu.iq dr.mohammed.fared@nahrainuniv.edu.iq dr.heba.majed@nahrainuniv.edu.iq	
8. Course Objectives	
Course Objectives	To introduce students to the general pharmacology of the central nervous system and to various drug groups used in the treatment of CNS diseases or drugs altering its function. The student will be introduced to various drugs used in the management of cardiovascular diseases. Moreover, the course covers the drugs affecting the gastrointestinal and respiratory systems
9. Teaching and Learning Strategies	
Strategy	<u>Cognitive goals</u> A1. How

	to dispe nse drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program .</u> B1. Drug use skill B2. Blood pressure measures skill B3.patient education skill <u>Teaching and Learning Methods</u> Board ,smart board and power point
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10. Course Structure

Wee k	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	2	introduction to the function and organization of the CNS and synaptic transmitters as a basis for understanding the actions of CNS drugs	Introduction to CNS pharmacology.	smart board	Theoretical examination
١	2	Cover all CNS drugs that caused:-excitement and euphoria, decrease feelings of fatigue, and increase motor activity. -Though and motor changes	CNS stimulants.	smart board	Theoretical examination
٢	3	Cover all drugs that could cause: -reversible state of CNS depression, resulting in loss of response to and perception of external stimuli. -loss of sensation in a limited region of the body	General and Local Anesthetics	smart board	Theoretical examination
٣	3	Cover all drugs that targeting depressed mood or loss of interest or pleasure in most activities	Antidepressant drugs.	smart board	Theoretical examination
٤	3	cover all drugs cause sedation (with concomitant relief of anxiety) or to encourage sleep (hypnosis).	Anxiolytic and Hypnotic drugs.	smart board	Theoretical examination
٥	2	Cover all drugs are able to reduce psychotic symptoms in a wide variety of conditions, including :schizophrenia, bipolar disorder or psychotic depression,	Antipsychotic (neuroleptic) drugs.	smart board	Theoretical examination
٥	3	Cover all drugs that interact with the different subtypes of opioid receptors.	Opioid analgesics and antagonists	smart board	Theoretical examination

٦	3	Cover all drug targeting Alzheimer's disease (AD), PD and ischaemic brain damage (stroke).	Treatment of neurodegenerative diseases.	smart board	Theoretical examination
٧	2	Cover all CNS drugs that targeting epilepsy	Antiepileptic Drugs.	smart board	Theoretical examination
٧	2	Cover all drugs that increase urine volume	Diuretics.	smart board	Theoretical examination
٨	2	Cover all drugs that improve cardiac function	The treatment of heart failure.	smart board	Theoretical examination
٩	2	Cover all drugs that suppress arrhythmias by a direct action on the cardiac cell membrane	Antiarrhythmic drugs.	smart board	Theoretical examination
١٠	2	Cover all drugs that either improve perfusion of the myocardium or reduce its metabolic demand, or both	Antianginal Drugs.	smart board	Theoretical examination
١١	3	Cover all drugs can lower blood pressure	Antihypertensive drugs	smart board	Theoretical examination
١٢	3	Cover all drugs inhibit thrombosis or limit abnormal bleeding	Drugs affecting the blood.	smart board	Theoretical examination
١٣	1	Cover all drugs that have lipid-lowering actions	Antihyperlipidemic drugs	smart board	Theoretical examination
١٤	3	Cover all drugs targeting the gut	Gastrointestinal and antiemetic drugs.	smart board	Theoretical examination
١٥	3	Cover all drugs used for asthma and COPD	Drugs acting on the respiratory system.	smart board	Theoretical examination

11. Course Evaluation

midterm exam 20% and Final exam 60%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lipincott Pharmacology, Latest Editions
Main references (sources)	textbooks
Recommended books and references (scientific journals, reports...)	journals
Electronic References, Websites	World health organization

Course Description Form

13.	Course Name		
	Practical pharmacology II		
14.	Course Code: PHC411		
15.	Semester / Year:		
	1 st semester / fourth		
16.	Description Preparation Date:		
	2-4-2025		
17.	Available Attendance Forms:		
	Practical		
18.	Number of Credit Hours (Total) / Number of Units (Total)		
	30hours		
19.	Course administrator's name (mention all, if more than one name)		
	Name: ا.د حيدر بهاء صاحب ا.د هيثم محمود كاظم م. د محمد فريد حميد م.د هبة ماجد حمود الصيدلاني الاختصاص رغد رحيم Email: dr.hayder.bahaa@nahrainuniv.edu.iq dr.haitham.mahmod@nahrainuniv.edu.iq dr.mohammed.fared@nahrainuniv.edu.iq dr.heba.majed@nahrainuniv.edu.iq raghad.raheem@nahrainuniv.edu.iq		
20.	Course Objectives		
	Course Objectives	To teach students the practice of application of Pharmacological principles in animal, and to understand the bases for evaluation of the	

			pharmacological activity of drugs and chemicals in experimental animals.		
21. Teaching and Learning Strategies					
Strategy	<u>Cognitive goals</u> A1. How to dispense drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program .</u> B1. Drug use skill B2. Blood pressure measures skill B3. patient education skill <u>Teaching and Learning Methods</u> Board ,smart board and power point				
22. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		How to write a report	Practical experiment	Practical exam
2	2		handling of animal	Practical experiment	Practical exam
3	2		Rout of administration 1	Practical experiment	Practical exam
4	2		Rout of administration 2	Practical experiment	Practical exam
5	2		Effect of para-sympathomi	Practical experiment	Practical exam

			mitics on glandular secretion		
6	2		drugs acting on the eye	Practical experiment	Practical exam
7	2		Effect of drugs on BP	Practical experiment	Practical exam
8	2		The effects of drugs and their antagonists on isolated rats ileum	Practical experiment	Practical exam
9	2		The effects of drugs and their antagonists on isolated rabbits ileum	Practical experiment	Practical exam
10	2		Effects of Antiepileptic's	Practical experiment	Practical exam
11	2		General Anesthesia	Practical experiment	Practical exam
12	2		Opioids analgesics	Practical experiment	Practical exam
13	2		Evaluation of NSAID	Practical experiment	Practical exam
14/15		Final exam			

23. Course Evaluation

Practical quizzes 5%, report 5%, final practical exam 10%

24. Learning and Teaching Resources

Required textbooks (curricular books, if a	pharmacology manual
Main references (sources)	pharmacology manual
Recommended books and references (scientific journals, reports...)	journals
Electronic References, Websites	World health organization

Course Description Form

25. Course Name:	
Pharmacology III	
26.	Course Code: PHC421
27. Semester / Year:	
2 nd semester / fourth	
28. Description Preparation Date:	
2-4-2025	
29. Available Attendance Forms:	
theoretical	
30. Number of Credit Hours (Total) / Number of Units (Total)	
30 hours	
31. Course administrator's name (mention all, if more than one name)	
ا.د حيدر بهاء صاحب ا.د هيثم محمود كاظم م. د محمد فريد حميد م. د هبة ماجد حمود Email: dr.hayder.bahaa@nahrainuniv.edu.iq dr.haitham.mahmod@nahrainuniv.edu.iq dr.mohammed.fared@nahrainuniv.edu.iq dr.heba.majed@nahrainuniv.edu.iq	
32. Course Objectives	
Course Objectives	To introduce the pharmacy students to various drug groups affecting endocrine systems and their use in correcting abnormalities in the endocrine functions. Moreover the course will cover the drugs used in the management of neoplastic diseases, bone disorders, obesity and erectile dysfunction. Inflammatory agents and the anti-inflammatory drugs will also be covered during this course.

33. Teaching and Learning Strategies

Strategy	<u>Cognitive goals</u> A1. How to dispense drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program.</u> B1. Drug use skill B2. Blood pressure measures skill B3. patient education skill <u>Teaching and Learning Methods</u> Board ,smart board and power point
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34. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
	3	Cover the drugs that affect the synthesis and/or secretion of specific hormones and their actions. the central role of thhypothalamic and pituitary hormones in regulating body functions is briefly presented . In addition, drugs affecting thyroid hormone synthesis and/or secretion	Hormones of the pituitary and thyroid glands.	smart board	Theoretical examination
	3	Cover the role of peptide hormones in regulating the metabolic activities of the body	Insulin and oral hypoglycemic drugs.	smart board	Theoretical examination

	2	Cover the physiological effects of adrenal steroids hormones . Uses of the adrenal cortex hormones replacement therapy; in treatment and management of asthma as well as other inflammatory diseases	Adreno-corticosteroids.	smart board	Theoretical examination
	2	Sex hormones produced by the gonads are necessary for conception, embryonic maturation, and development of primary and secondary sexual characteristics at puberty & used therapeutically in replacement therapy, for contraception, and in management of menopausal symptoms, Several antagonists are effective in cancer chemotherapy	The gonadal hormones and inhibitors.	smart board	Theoretical examination
	3	Cover the inflammatory processes and uses of NSAIDs All drugs used for treatment of rheumatoid arthritis and gout	Non-steroidal anti-inflammatory drugs (NSAIDs) and other anti-gout agents.	smart board	Theoretical examination
	12	Cover all drugs that reduced bone loss (occurs in elderly people of both sexes but is most pronounced in postmenopausal women	Drugs used in osteoporosis.	smart board	Theoretical examination
	6	Cover all drugs used to cure cancer, control of the disease to extend survival and maintain the best quality of life.	Cancer chemotherapy	smart board	Theoretical examination
			Cancer chemotherapy	Theoretical examination	Theoretical examination
			Cancer chemotherapy	Theoretical examination	Theoretical examination
	3	Cover all drugs that are either autacoids or autacoid antagonists	Autacoids and autacoid antagonists	smart board	Theoretical examination

		(compounds that inhibit the synthesis of certain autacoids or that interfere with their interactions with receptors)	Histamin and antihistamin Serotonin		
	2	Cover all drugs to improve sexual activity	Drugs used erectile dysfunction	smart board	Theoretical examination
	2	cover all drugs that have an appetite suppressant effects or decrease fat absorption to treat obesity	Drugs used the management of obesity	smart board	Theoretical examination

35. Course Evaluation

Midterm exam 30% , final exam 70%

36. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lippencott's pharmacology
Main references (sources)	Text books
Recommended books and references (scientific journals, reports...)	Articles
Electronic References, Websites	World health organization

Course Description Form

37.	Course Name:
	Pharmacology I
38.	Course Code: PHC322
39.	Semester / Year:
	2 nd semester / third year
40.	Description Preparation Date:
	2-4-2025

41.Available Attendance Forms:					
Theoretical					
42.Number of Credit Hours (Total) / Number of Units (Total)					
45 hours					
43. Course administrator's name (mention all, if more than one name)					
ا.د حيدر بهاء صاحب م.د محمد فريد حميد هبة ماجد حمود Email: dr.hayder.bahaa@nahrainuniv.edu.iq dr.mohammed.fared@nahrainuniv.edu.iq dr.heba.majed@nahrainuniv.edu.iq					
44. Course Objectives					
Course Objectives		To introduce pharmacy students to basis of general pharmacology.The stud will learn about various body systems and dr used to affect them in both healthy and disea situations.Moreover, the course will cover drugs used to treat microbial infections			
45. Teaching and Learning Strategies					
Strateg	<u>How to dispense drugs</u> A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program .</u> B1. Drug use skill B2. Blood pressure measures skill B3.patient education skill <u>Teaching and Learning Methods</u> Board ,smart board and power point				
46. Course Structure					
Wee k	Hour s	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Cover the basic principle of pharmacology, nature of drugs	Introduction to Pharmacology.	smart board	Theoretical examination

2	3	Illustrate the actions of biological system on the drugs. <i>The major processes involved in pharmacokinetics are absorption, distribution and elimination</i>	Pharmacokinetics.	smart board	Theoretical examination
3	3	Define and describe the terms receptor and receptor site. Distinguish between a competitive inhibitor and an allosteric inhibitor	Drug receptor interaction and Pharmacodynamics. Drugs metabolism	smart board	Theoretical examination
4	1	<i>Covers The anatomy, neurotransmitter chemistry, receptor characteristics, and functional integration of the ANS</i>	The autonomic nervous system (ANS).	smart board	Theoretical examination
5	4	Covers Drugs with acetylcholine-like effects (cholinomimetics). Classify these drugs into 2 major subgroups on the basis of their mode of action (ie, whether they act directly at the acetylcholine receptor or indirectly through inhibition of cholinesterase).	Cholinergic system.	smart board	Theoretical examination
6	4	Covers Drugs with The sympathomimetics constitute a very important group of drugs used for cardiovascular, respiratory, and other conditions	Adrenergic system.	smart board	Theoretical examination
7	2	Antimicrobial therapy takes advantage of the biochemical differences that exist between microorganisms and human beings. Antimicrobial drugs	Principal of antimicrobial therapy.	smart board	Theoretical examination

		are effective in the treatment of infections because of their selective toxicity; that is, they have the ability to injure or kill an invading microorganism without harming the cells of the host. In most instances, the selective toxicity is relative rather than absolute, requiring that the concentration of the drug be carefully controlled to attack the microorganism, while still being tolerated by host.			
8	4	<i>The beta-lactams include some of the most effective, widely used, and well-tolerated agents available for the treatment of microbial infections. Vancomycin, fosfomycin, and bacitracin also inhibit cell wall synthesis but are not nearly as important as the beta-lactam drugs</i>	β -lactam and other cell wall synthesis inhibitor antibiotics	smart board	Theoretical examination
9			MID EXAM		
10	3	<i>The antimicrobial drugs reviewed in this lecture selectively inhibit bacterial protein synthesis. The mechanisms of protein synthesis in microorganisms are not identical to those of</i>	Protein synthesis inhibitors	smart board	Theoretical examination

		<i>mammalian cells</i>			
11	3	Describe how sulfonamides and trimethoprim affect bacterial folic acid synthesis and how resistance to the antifolate drugs occurs. Identify major clinical uses of sulfonamides and trimethoprim, singly and in combination, and describe their characteristic pharmacokinetic properties and toxic effects Describe how fluoroquinolones inhibit nucleic acid synthesis and identify mechanisms involved in bacterial resistance to these agents. List the major clinical uses of fluoroquinolones and describe their characteristic pharmacokinetic properties and toxic effects.	Quinolones, Folate antagonists, and urinary tract antiseptics.	smart board	Theoretical examination
12	2	List 5 special problems associated with chemotherapy of mycobacterial infections. Identify the characteristic pharmacodynamic and pharmacokinetic properties of isoniazid and rifampin. List the typical adverse effects of ethambutol, pyrazinamide, and streptomycin. Describe the standard protocols for drug management of latent tuberculosis, pulmonary tuberculosis, and multidrug-resistant tuberculosis.	Antimycobacterium drugs	smart board	Theoretical examination

		Identify the drugs used in leprosy and in the prophylaxis and treatment of <i>M avium-intracellulare</i> complex disease.			
13	2	Describe the mechanisms of action of the azole, polyene, and echinocandin antifungal drugs. Identify the clinical uses of amphotericin B, flucytosine, individual azoles, caspofungin, griseofulvin, and terbinafine. Describe the pharmacokinetics and toxicities of amphotericin B. Describe the pharmacokinetics, toxicities, and drug interactions of the azoles. Identify the main topical antifungal agents.	Antifungal drugs.	smart board	Theoretical examination
14	2	Name the major antimalarial drugs. Know which are used for chemoprophylaxis, which are effective in chloroquine resistance, and which are exoerythrocytic schizonticides. ☐ ☐ Identify the characteristic adverse effects of the major antimalarial drugs. ☐ ☐ Describe the clinical uses and adverse effects of metronidazole. ☐ ☐ Identify the intestinal amebicides. ☐ ☐ Identify the drugs used for prophylaxis and treatment of pneumocystosis and	Antiprotozoal drugs.	smart board	Theoretical examination

		toxoplasmosis, and know their characteristic toxic effects. ☐ ☐ Identify the major drugs used for trypanosomiasis and leishmaniasis, and know their characteristic toxic effects.			
		List the clinical uses and the adverse effects of albendazole/mebendazole, diethylcarbamazine, ivermectin, and pyrantel pamoate. ☐ ☐ Name the antihelminthic drug (or drugs) that (1) facilitate the actions of GABA, (2) increase calcium permeability in muscle, (3) activate nicotinic receptors, and (4) disrupt microtubule function. ☐ ☐ Describe clinical uses and adverse effects of ivermectin, praziquantel, and niclosamide.	Anthelmintic drugs.	smart board	Theoretical examination

47. Course Evaluation

Report 2% , quizzes 3% , mid exam 25% , final exam 70%

48. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lippencott's pharmacology,
Main references (sources)	Text books
Recommended books and references (scientific journals, reports...)	Articles
Electronic References, Websites	World health organization

Course Description Form

49.	Course Name:
	Clinical Toxicology
50.	Course Code: PHC424

51. Semester / Year:	
1 st Semester / Fifth	
52. Description Preparation Date:	
2-4-2025	
53. Available Attendance Forms:	
Theoretical and practical	
54. Number of Credit Hours (Total) / Number of Units (Total)	
30 hours	
55. Course administrator's name (mention all, if more than one name)	
Name: م. د محمد فريد حميد هبة ماجد حمود Email: dr.mohammed.fared@nahrainuniv.edu.iq dr.heba.majed@nahrainuniv.edu.iq Email:	
56. Course Objectives	
Course Objectives	To provide students with the principles and skills required to deal with the toxicity of chemicals and drugs in clinical settings. It helps students correlate signs and symptoms of toxicity with the analytical data, and know how to establish preventive and therapeutic measures for poisoning cases.
57. Teaching and Learning Strategies	
Strategy	<u>Cognitive goals</u> A1. How to dispense drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program .</u> B1. Drug use skill B2. Blood pressure measures skill

	B3.patient education skill <u>Teaching and Learning Methods</u> Board ,smart board and power point				
58. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Cover the fundamental principles of managing acute poisonings Cover the mechanisms, manifestations of toxicity and management of OTC drugs	Initial Evaluation and Management of the Poisoned Patient. Including pediatric poisoning and special consideration of geriatric patient.	smart board	Theoretical examination
2	1		Initial Evaluation and Management of the Poisoned Patient. Including pediatric poisoning and special consideration of geriatric patient. Drug Toxicity: Over the counter drugs, caffeine and theophylline	smart board	Theoretical examination
3	2		Drug Toxicity: antihistamine, Decongestant; non-steroidal anti-inflammatory drugs and vitamins.	smart board	Theoretical examination

4	2	Cover the Signs and symptoms associated with these drugs poisoning ,also describe the cardiovascular outcomes that follow the toxicity	Toxicity of Prescription Medications: Cardiovascular drugs; Digoxin ; beta blockers and ACE inhibitors..	smart board	Theoretical examination
5	2		Toxicity of Prescription Medications: Cardiovascular drugs : Calcium channel blocker Antiarrhythmic agents.	smart board	Theoretical examination
6	2	Cover the manifestations of toxicity and management of anticholinergic, antidepressant and antipsychotic drugs	Toxicity of Prescription Medications: Anticholinergic, phenothiazines; TCA	smart board	Theoretical examination
7	2	Cover the manifestations of toxicity and management the toxicity (an illicit drug, or a licit drug used outside of legitimate medical practice) cause strong feelings of euphoria or alter perception.	Drug of Abuse: Opioids; Cocaine; phencyclidine;	smart board	Theoretical examination
8	2		Drug of Abuse: marijuana; Lysergic acid ; CNS stimulant	smart board	Theoretical examination
9	2	Cover: the most toxic plants that used by the human and the mech. of toxicity of the toxin included in it and management of those toxicity.	Toxic plants; Poisonous mushrooms.	smart board	Theoretical examination
10	2		Herbal preparations.	smart board	Theoretical examination
11	2	Cover the manifestations of toxicity and management of sedative & hypnotic drugs and anti-diabetic agents	CNS depressants ,hypoglycemic agents		

12	2	Cover:- Types of chemicals and household toxin-manifestations of toxicity and management of these chemicals that may cause toxicity specially in children	Chemical and Environmental Toxins: Disinfectants, Camphor and moth repellents	smart board	Theoretical examination
13	2		Chemical Environmental Toxins; Hydrocarbones;	smart board	Theoretical examination

59. Course Evaluation

Seminar 10% , quizzes 10% , mid exam 20% , final exam 60%

60. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Goldfrank's Toxicologic Emergencies, Casarett and Doull Toxicology
Main references (sources)	Text books
Recommended books and references (scientific journals, reports...)	Articles
Electronic References, Websites	World health organization

Course Description Form

61. Course Name:
General Toxicology
62. Course Code: PHC424
63. Semester / Year:
Second semester – Fourth year
64. Description Preparation Date:
2-4-2025
65. Available Attendance Forms:
66. Number of Credit Hours (Total) / Number of Units (Total)

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

Name

م. د محمد فريد حميد
م. د هبة ماجد حمود

Email:

dr.mohammed.fared@nahrainuniv.edu.iq

dr.heba.majed@nahrainuniv.edu.iq

:

68. Course Objectives

Course Objectives

To study the principles of exposure to different chemicals and environmental factors and their sources as well as the mechanisms of toxicity and their risk to human beings. The course helps students understand the required measures to protect living organisms against suspected toxic hazards

69. Teaching and Learning Strategies

Strategy

Cognitive goals

- A1. How to dispense drugs
- A2. Patient education about drug adverse effect
- A3. How to communicate with patient and educate him
- A4. How to prepare lectures and seminars

The skills goals special to the program.

- B1. Drug use skill
- B2. Blood pressure measures skill
- B3. patient education skill

Teaching and Learning Methods

Board ,smart board and power point

70. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Cover the different areas of toxicology, classificati	Introduction: general consideration; host factor, environmental	smart board	Theoretical examination

		on of toxic agents , spectrum of undesired effects, and characteristic of exposure	factors of toxic effects.				
2	2	Cover the undesired effects of different toxic agents on body systems	Target organs and systemic toxicology: Renal system	smart board	Theoretical examination		
3	2		Liver	smart board	Theoretical examination		
4	2		Nervous system	smart board	Theoretical examination		
5	2		Blood	smart board	Theoretical examination		
6	2		Respiratory system, skin	smart board	Theoretical examination		
7			MID EXAM	smart board	Theoretical examination		
8	2	Cover the undesired effects of different toxic agents on body systems	Cardiovascular system	smart board	Theoretical examination		
9	2	Definition of metals, , chemical mechanism s of metal	Toxic substances: Metals	smart board	Theoretical examination		

		toxicity , and major toximetals.					
10	3		Food additive and contami nants Pesticid es	smart board	Theoretical examination		
11	2		Solvents,	smart board	Theoretical examination		
12	2		Plants	smart board	Theoretical examination		
13	2	Radiatio n backgrou nd Types of ionizing radiation Relative biologic effective ness and Quality factors Units of radiation activity and dose	Radiation and radioactive materials	smart board	Theoretical examination		
14	2	Cover : definition of of cancer, multistage of carcinogenes is, mechanism of action of carcinogen	Carcinogenesis	smart board	Theoretical examination		
15	2		Final exam	smart board	Theoretical examination		

71. Course Evaluation

20% practical (10% quizzes and homework , 10%final practical exam), 20%mid exam , and 60%final exam

72. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Goldfrank's Toxicologic Emergencies, Casarett and Doull Toxicology
Main references (sources)	Text books
Recommended books and references (scientific journals, reports...)	Articles
Electronic References, Websites	World health organization

Course Description Form

73.	Course Name:
	Physiology I
74.	Course Code: PHC214
75.	Semester / Year:
	1 st semester / 2 nd year
76.	Description Preparation Date:
	2-4-2025
77.	Available Attendance Forms:
	Theory
78.	Number of Credit Hours (Total) / Number of Units (Total)
	45
79.	Course administrator's name (mention all, if more than one name)
	Name: م.م سارة حيدر خالد Email: sara.haider@nahrainuniv.edu.iq
80.	Course Objectives
Course Objectives	To help students understand the basic principles of physiological functions of different tissues and organs of the human being, and how to evaluate these functions and correlate them with the normal and abnormal conditions. It emphasizes on

	the role of homeostatic and hemodynamic changes in the integration of physiological status
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81. Teaching and Learning Strategies

Strategy	<u>Cognitive goals</u> A1. How to dispense drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program .</u> B1. Drug use skill B2. Blood pressure measures skill B3. patient education skill <u>Teaching and Learning Methods</u> Board ,smart board and power point
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82. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1		Understand general concept of function of body organs	General and cellular basis of medical physiology	smart board	Theoretical examination
2		Understand the function of nerve and tissue	Physiology of nerves and muscles	smart board	Theoretical examination
3		Understand the action potential	Characteristic of excitable tissue	smart board	Theoretical examination
4		Understand transition o signals	Synaptic transmission	smart board	Theoretical examination

5		Understand the physiology of autonomic nervous system	The autonomic nervous system.	smart board	Theoretical examination
6		Understand signal transition between nerves and muscles	Neuromuscular junction	smart board	Theoretical examination
7		Understand the component and function of skeletal muscle	Skeletal muscle	smart board	Theoretical examination
8		understand pulmonary ventilation and function	Respiration:	smart board	Theoretical examination
9		=	Respiration:	smart board	Theoretical examination
10		Understand the body fluid Compartments and the function	Renal Physiology	smart board	Theoretical examination
11		of the kidney =	Renal Physiology	smart board	Theoretical examination
12		understand physiology of heart and circulatory system =	Cardiovascular system	smart board	Theoretical examination
13			Cardiovascular system	smart board	Theoretical examination

83. 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					
84. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			<i>Review of Medical Physiology; Ganong W.F</i> and <i>Textbook of Medical Physiology by Guyton AC</i>		
Main references (sources)			Text books		
Recommended books and references (scientific journals, reports...)			Articles		
Electronic References, Websites			World health organization		

Course Description Form

85.	Course Name:
	Physiology I
86.	Course Code: PHC214

87. Semester / Year:	
1 semester / 2 nd year	
88. Description Preparation Date:	
2-4-2025	
89. Available Attendance Forms:	
Practical	
90. Number of Credit Hours (Total) / Number of Units (Total)	
91. Course administrator's name (mention all, if more than one name)	
Name: م.م سارة حيدر خالد Email: sara.haider@nahrainuniv.edu.iq الصيدلاني الاختصاص رغد رحيم Email: rgahad.raheem@nahrainuniv.edu.iq	
92. Course Objectives	
Course Objectives	To enable students understanding the basic principles of physiological functions of different tissues and organs of the human being, and how to evaluate these functions and correlate them with the normal and abnormal conditions. It also emphasizes on the role of homeostatic and hemodynamic changes in the integration of physiological status.
93. Teaching and Learning Strategies	
Strategy	<u>Cognitive goals</u> A1. How to dispense drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program .</u> B1. Drug use skill B2. Blood pressure measures skill B3. patient education skill <u>Teaching and Learning Methods</u> Board ,smart board and power point

94. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1			Experiments on respiratory system (respiratory rate and volumes).	Practical experiment	Practical exam
2			Experiments on respiratory system (respiratory rate and volumes).	Practical experiment	Practical exam
3			Introduction to blood physiology.	Practical experiment	Practical exam
4			Blood typing and blood transfusion.	Practical experiment	Practical exam
5			Tutorial.	Practical experiment	Practical exam
6			Packed cell volume.	Practical experiment	Practical exam
7			Determination of hemoglobin concentration.	Practical experiment	Practical exam
8			Blood indices.	Practical experiment	Practical exam
9			Determination of bleeding time and clotting time.	Practical experiment	Practical exam
10			Tutorial.	Practical experiment	Practical exam

11			Blood pressure.	Practical experiment	Practical exam
12			Effect of exercise on blood pressure.	Practical experiment	Practical exam
13			Effect of exercise on blood pressure.	Practical experiment	Practical exam

95. 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

96. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Physiology laboratory manual
Main references (sources)	Text books
Recommended books and references (scientific journals, reports...)	Articles
Electronic References, Websites	World health organization

Course Description Form

97. Course Name:	
Physiology II	
98. Course Code: PHC224	
99. Semester / Year:	
2 nd semester / 2 nd year	
100. Description Preparation Date:	
2-4-2025	
101. Available Attendance Forms:	
Theoretical	
102. Number of Credit Hours (Total) / Number of Units (Total)	
45	
103. Course administrator's name (mention all, if more than one name)	
Name: م.م سارة حيدر خالد Email: sara.haider@nahrainuniv.edu.iq	
104. Course Objectives	
Course Objectives	To help students understand the basic principles of physiological functions of different tissues and organs of the human being, and how to evaluate these functions and correlate them with the normal and abnormal conditions. It emphasizes on the role of homeostatic and hemodynamic changes in the integration of physiological status.
105. Teaching and Learning Strategies	
Strategy	<u>Cognitive goals</u> A1. How to dispense drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program.</u> B1. Drug use skill B2. Blood pressure measures skill B3. patient education skill <u>Teaching and Learning Methods</u> Board ,smart board and power point

106. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1			Gastrointestinal function: Digestion and absorption of carbohydrates, proteins; lipids; absorption of water and electrolytes;	smart board	Theoretical examination
2			vitamins and minerals;	smart board	Theoretical examination
3			regulation of gastrointestinal function: Introduction; gastrointestinal hormones; mouth and esophagus; stomach; exocrine portion of the pancreas; liver and biliary system	smart board	Theoretical examination
4			; small intestine; colon. Circulatory body fluid: Introduction; blood; bone marrow;	smart board	Theoretical examination
5			white blood cells; immunity;	smart board	Theoretical examination
6			platelets; red blood cells;	smart board	Theoretical

			anemia; polycythemia;		examination
7			blood group and Rh factor; hemostasis:	smart board	Theoretical examination
8			The clotting mechanism / blood coagulation tests; anti clotting mechanism; the plasma; the lymph; abnormalities of hemostasis.	smart board	Theoretical examination
9			Endocrinology : Introduction; energy balance, metabolism and nutrition;	smart board	Theoretical examination
10			the pituitary gland;	smart board	Theoretical examination
11			the thyroid gland;	smart board	Theoretical examination
12			the gonads: development and function of the reproductive system;	smart board	Theoretical examination
13			the adrenal medulla and adrenal cortex;	smart board	Theoretical examination
14			hormonal control of calcium metabolism and the physiology of the bone;	smart board	Theoretical examination
15			endocrine functions of the pancreas	smart board	Theoretical examination

			and regulation of carbohydrate metabolism.		
107. 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					
108. Learning and Teaching Resources					
Required textbooks (curricular books, if a			<i>Review of Medical Physiology; Ganong W.F and Textbook of Medical Physiology by Guyton AC</i>		
Main references (sources)			Text books		
Recommended books and references (scientific journals, reports...)			Articles		
Electronic References, Websites			World health organization		

Course Description Form

109.	Course Name:	
	Physiology II	
110.	Course Code: PHC224	
111.	Semester / Year:second - second semester	
112.	Description Preparation Date:2-4-2025	
113.	Available Attendance Forms: Practical	
114.	Number of Credit Hours (Total) / Number of Units (Total)	
115.	Course administrator's name (mention all, if more than one name)	
	Name: م.م سارة حيدر خالد Email: sara.haider@nahrainuniv.edu.iq الصيدلاني الاختصاص رغد رحيم Email: rgahad.raheem@nahrainuniv.edu.iq	
116.	Course Objectives	
	Course Objectives 	To enable students understanding the basic principles of physiological functions of different tissues and organs of the human being, and how to evaluate these functions and correlate them with the normal and abnormal conditions. It also emphasizes on the role of homeostatic and hemodynamic changes in the integration of physiological status.
117.	Teaching and Learning Strategies	
	Strategy 	<u>Cognitive goals</u> A1. How to dispense drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program .</u> B1. Drug use skill B2. Blood pressure measures skill B3.patient education skill

	<u>Teaching and Learning Methods</u> Board ,smart board and power point
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118. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Differential W.B.C count	Practical experiment	Practical exam
2	2		Differential W.B.C count	Practical experiment	Practical exam
3	2		Total W.B.C. count	Practical experiment	Practical exam
4	2		Tutorial	Practical experiment	Practical exam
5	2		Red blood cell counting	Practical experiment	Practical exam
6	2		Platelets counting	Practical experiment	Practical exam
7	2		Erythrocyte sedimentation rate (ESR)	Practical experiment	Practical exam
8	2		Tutorial	Practical experiment	Practical exam
9			Midterm exam		
10			Midterm exam		
11	2		Insulin regulation of blood glucose	Practical experiment	Practical exam
12	2		Renal physiology	Practical experiment	Practical exam
13	2		Some experiments on vision	Practical experiment	Practical exam

14	2		Tutorial and review	Practical experiment	Practical exam
15			Final exam	Practical experiment	Practical exam
119. 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					
120. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			Practical Physiology manual		
Main references (sources)			Text books		
Recommended books and references (scientific journals, reports...)			Articles		
Electronic References, Websites			World health organization		

Course Description Form

121.	Course Name:
	Medical terminology
122.	Course Code: PHC114
123.	Semester / Year:
	1 st semester / 1 st year
124.	Description Preparation Date: 2-4-2025
125.	Available Attendance Forms:
	Theoretical
126.	Number of Credit Hours (Total) / Number of Units (Total)
	15
127.	Course administrator's name (mention all, if more than one name)
	Name: الصيدلاني الاختصاص رغد رحيم Email: rgahad.raheem@nahrainuniv.edu.iq
128.	Course Objectives
Course Objectives	To teach students how to pronounce, spell and define medical and pharmaceutical

	terms used in health care settings. It will use a word-building strategy that helps them discover connections and relationships among word roots, prefixes, and suffixes. Students will learn the meaning of each part of a complex medical and pharmaceutical term, be able to put the parts together and define the term.
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129. Teaching and Learning Strategies

Strategy	<u>Cognitive goals</u> A1. How to dispense drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program .</u> B1. Drug use skill B2. Blood pressure measures skill B3. patient education skill <u>Teaching and Learning Methods</u> Board ,smart board and power point
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130. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1		Basic word roots and common suffixes	smart board	Theoretical examination
2	1		More word roots, suffixes and prefixes related to pharmaceutical sciences (pharmacognosy, clinical pharmacy, pharmaceuticals,...etc)	smart board	Theoretical examination
3	1		Basic anatomical terms and abnormal conditions	smart board	Theoretical examination
4	1		Basic anatomical terms and	smart board	Theoretical examination

			abnormal conditions		
5	1		The genitals and urinary tract	smart board	Theoretical examination
6	1		The gastrointestinal tract	smart board	Theoretical examination
7	1		The heart and cardiovascular system	smart board	Theoretical examination
8	1		Symptoms, diagnoses, treatments, communication qualifiers, and statistics	smart board	Theoretical examination
9	1		Symptoms, diagnoses, treatments, communication qualifiers, and statistics	smart board	Theoretical examination
10	1		Growth and development, and body orientation	smart board	Theoretical examination
11	1		Gynecology, pregnancy, and childbirth	smart board	Theoretical examination
12	1		The eye and the respiratory tract	smart board	Theoretical examination
13	1		The nervous system and behavioral disorders	smart board	Theoretical examination
14	1		The nervous system and behavioral disorders	smart board	Theoretical examination
15	1		Blood and immunity	smart board	Theoretical examination
131. Course Evaluation					
30% mid exam , 70% final exam					
132. Learning and Teaching Resources					

Required textbooks (curricular books, if a	A Short Course in Medical Terminology
Main references (sources)	Text books
Recommended books and references (scientific journals, reports...)	books
Electronic References, Websites	Medical dictionary

Course Description Form

133. Course Name:	Clinical Toxicology
134. Course Code: PHC516	
135. Semester / Year: fifth	1 st semester / fifth year
136. Description Preparation Date:	2-4-2025
137. Available Attendance Forms: Practical	
138. Number of Credit Hours (Total) / Number of Units (Total)	
139. Course administrator's name (mention all, if more than one name)	Name: م. د محمد فريد حميد م. د هبة ماجد حمود dr.mohammed.fared@nahrainuniv.edu.iq dr.heba.majed@nahrainuniv.edu.iq Email:
140. Course Objectives	Course Objectives - To provide students with the principles and skills required to deal with

	the toxicity of chemicals and drugs in clinical settings. It helps students correlate signs and symptoms of toxicity with the analytical data, and know how to establish preventive and therapeutic measures for poisoning cases.	
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141. Teaching and Learning Strategies

Strate	<u>Cognitive goals</u> A1. How to dispense drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program</u> B1. Drug use skill B2. Blood pressure measures skill B3. patient education skill <u>Teaching and Learning Methods</u> Board ,smart board and power point
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142. Course Structure

W e e k	H o u r s	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
		1. Understanding of :Toxicology Principles Identification and .٢	Botulinum tox	Smart board	Theoretical examination
		Diagnosis of Poisoning	Snake bite	Smart board	Theoretical examination
		Knowledge of .٣ :Common Toxins Interpretation of .٤	Ammonia	Smart board	Theoretical examination
		:Laboratory Tests	Castor	Smart board	Theoretical examination

		Treatment and Management of Poisoning	dantrolene	Smart board	Theoretical examination
		Ability to apply appropriate management strategies for poisoning, including	methanol	Smart board	Theoretical examination
		decontamination (e.g. activated charcoal gastric lavage), antidote	chloroquine	Smart board	Theoretical examination
		supportive care (e.g. naloxone for opioid poisoning), and	eucalyptus	Smart board	Theoretical examination
		Use of Antidotes and Supportive Therapies	Boric acid	Smart board	Theoretical examination
			amrinone	Smart board	Theoretical examination

143. Course Evaluation

5% seminar 5%quiz 10%final exam

144. Learning and Teaching Resources

Required textbooks (curricular books if any)	Goldfrank's Toxicologic Emergencies, Casarett and Doull Toxicology
Main references (sources)	Text books
Recommended books and references (scientific journals, reports...)	Articles
Electronic References, Websites	World health organization

Course Description Form

145.	Course Name:	Molecular Pharmacology	
146.	Course Code: PHG111		
147.	Semester / Year:	1 st semester post graduate	
148.	Description Preparation Date:	2-4-2025	
149.	Available Attendance Forms:	theoretical	
150.	Number of Credit Hours (Total) / Number of Units (Total)	45 hours	
151.	Course administrator's name (mention all, if more than one name)		
Name: د. حيدر بهاء صاحب د. هيثم محمود كاظم Email: dr.hayder.bahaa@nahrainuniv.edu.iq dr.haitham.mahmod@nahrainuniv.edu.iq Email:			
152.	Course Objectives		
Course Objectives		To introduce pharmacy students to the basis of general pharmacology. The student will learn about various body systems and drugs used to affect them in both healthy and diseased situations. Moreover, the course will cover the drugs used to treat microbial infections.....	
153.	Teaching and Learning Strategies		
Strategy	A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars		

	<u>The skills goals special to the program .</u> B1. Drug use skill B2. Blood pressure measures skill B3. patient education skill <u>Teaching and Learning Methods</u> Board ,smart board and power point
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154. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
		Cover the basic principles of pharmacology, nature of drugs	Introduction: The Nature of Drugs & Drug Development & Regulation	smart board	Theoretical examination
	2	Illustrate the actions of biological system on the drugs. The major processes involved in pharmacokinetics are absorption, distribution, and elimination	Drug Receptors & Pharmacodynamics	smart board	Theoretical examination
	4	Define and describe the terms receptor and receptor site. Distinguish between a competitive inhibitor and an allosteric inhibitor	Pharmacokinetics & Pharmacodynamics: Rational Dosing & the Time Course of Drug Action	smart board	Theoretical examination
	2	Covers The anatomy, neurotransmitter chemistry, receptor characteristics, and functional integration of the ANS	Introduction to Autonomic Pharmacology	smart board	Theoretical examination
	2	Covers Drugs with acetylcholine-like effects (cholinomimetics). Classify these drugs into 2 major subgroups on the basis of their mode of	Cholinergic-Activating & Cholinesterase-Inhibiting Drugs Cholinergic-Blocking Drugs	smart board	Theoretical examination

		action (ie, whether they act directly at the acetylcholine receptor or indirectly through inhibition of cholinesterase).			
	2	Covers Drugs with The sympathomimetics constitute a very important group of drugs used for cardiovascular, respiratory, and other conditions	Adrenoceptor Agonists & Sympathomimetic Drugs Adrenoceptor Antagonist Drugs	smart board	Theoretical examination
	2	Cover all drugs that increase urine volume Cover all drugs that improve cardiac function Cover all drugs that suppress arrhythmias by a direct action on the cardiac cell membrane and all drugs affect blood clotting factors	Antihypertensive Agents	smart board	Theoretical examination
	2		Vasodilators & the Treatment of Angina Pectoris	smart board	Theoretical examination
	4	also	agents Used in Cytopenias; Hematopoietic Growth Factors, Drugs Used in Disorders of Coagulation	smart board	Theoretical examination
	4		Drugs Used in Heart Failure Drugs Used in Heart Failure Diuretic Agents	smart board	Theoretical examination
	4	Cover the all drugs affect lipids levels in blood and covers inflammatory processes and uses of NSAIDs All drugs used for treatment of rheumatoid arthritis and gout	Agents Used in Dyslipidemia Nonsteroidal Anti-Inflammatory Drugs, Disease-Modifying	smart board	Theoretical examination

			Antirheumatic Drugs, Nonopioid Analgesics, & Drugs Used in Gout		
155. Course Evaluation					
30% mid exam 70% fina exam					
156. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			books: Katzung & Trevor : Basic and Clinical Pharmacology		
Main references (sources)			Text books		
Recommended books and references (scientific journals, reports...)			Articles		
Electronic References, Websites			World health organization		

Course Description Form

157. Course Name:	
Advanced Pharmacology	
158. Course Code: PHG122	
159. Semester / Year:	
2 nd semster/ postgraduate	
160. Description Preparation Date:	
4-4-2025	
161. Available Attendance Forms:	
theoretical	
162. Number of Credit Hours (Total) / Number of Units (Total)	
45 hors	
163. Course administrator's name (mention all, if more than one name)	
Name: ا.د حيدر بهاء صاحب ا.د هيثم محمود كاظم Email: dr.hayder.bahaa@nahrainuniv.edu.iq dr.haitham.mahmod@nahrainuniv.edu.iq Email:	
164. Course Objectives	
Course Objectives	To introduce pharmacy students to the basis of general pharmacology. The student will learn about various body systems and drugs used to affect them in both healthy and diseased situations. Moreover, the course will cover the drugs used to treat microbial infections....
165. Teaching and Learning Strategies	
Strategy	<u>goals</u> A1. How to dispen se drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him

A4. How to prepare lectures and seminars
The skills goals special to the program.

B1. Drug use skill

B2. Blood pressure measures skill

B3. patient education skill

Teaching and Learning Methods

Board ,smart board and power point

166. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
		Cover the drugs that affect the synthesis and/or secretion of specific hormones and their actions. the central role of hypothalamic and pituitary hormones in regulating body functions is briefly presented .	Hypothalamic & Pituitary Hormones Thyroid & Antithyroid Drugs	smart board	Theoretical examination
		In addition, drugs affecting thyroid hormone synthesis and/or secretion Cover the role of peptide hormones in regulating the metabolic activities of the body	Adrenocorticosteroids & Adrenocortical Antagonists, The Gonadal Hormones & Inhibitors	smart board	Theoretical examination
		Cover the physiological effects of adrenal steroids hormones . Use of the adrenal cortex hormones in replacement therapy; in treatment and management of asthma as well as other inflammatory diseases Sex hormones produced by the gonads are necessary for conception, embryonic maturation, and development of primary and secondary sexual	Pancreatic Hormones & Antidiabetic Drugs, Agents That Affect Bone Mineral Homeostasis	smart board	Theoretical examination

		characteristics at puberty & used therapeutically in replacement therapy, for contraception, and in management of menopausal symptoms, Several antagonists are effective in cancer chemotherapy			
		introduction to the functional organization of the CNS and its synaptic transmission as a basis for understanding the action of CNS drugs Cover all CNS drugs that caused:- excitement and euphoria, decrease feelings of fatigue, and increase motor activity. -Though and mood changes Cover all drugs that could cause: - reversible state of CNS depression, resulting in loss of response to and perception of external stimuli. -loss of sensation in a limited region of the body Cover all drugs that targeting depressed mood or loss of interest or pleasure in most activities cover all drugs cause sedation (with concomitant relief of anxiety) or to encourage sleep (hypnosis). Cover all drugs are able to reduce psychotic symptoms in a wide variety of conditions, including :schizophrenia, bipolar disorder or psychotic depression, Cover all drugs that interact with the different subtypes of opioid receptors. Cover all drug targeting Alzheimer's disease (AD), PD and ischaemic brain damage (stroke). Cover all CNS drugs that targeting epilepsy	Sedative-Hypnotic Drugs, Antiseizure Drugs . General and Local Anesthetics Skeletal Muscle Relaxants. Antipsychotic Agents, Antidepressant Agents Opioid Agonists & Antagonists	smart board	Theoretical examination

		Antimicrobial therapy takes advantage of the biochemical differences that exist between microorganisms and human beings. Antimicrobial drugs are effective in the treatment of infections because of their selective toxicity; that is, they have the ability to injure or kill an invading microorganism without harming the cells of the host. In most instances, the selective toxicity is relative rather than absolute, requiring that the concentration of the drug be carefully controlled to attack the microorganism, while still being tolerated by the host	Beta-Lactam & Other Cell Wall- & Membrane-Active, Tetracyclines, Macrolides, Clindamycin, Chloramphenicol, 46. Sulfonamides, Trimethoprim, & Quinolones Antimycobacterial Drugs, Antifungal Agents, Antiviral Agents	smart board	Theoretical examination
		Covers all drugs used in treatment of cancer and immunological disease	Cancer Chemotherapy	smart board	Theoretical examination
			Immunopharmacology	smart board	Theoretical examination
			Introduction to Toxicology: Occupational & Environmental Heavy Metal Intoxication & Chelators Management of the Poisoned Patient	smart board	Theoretical examination
167. Course Evaluation					
30% mid exam 70% final exam					
168. Learning and Teaching Resources					
Required textbooks (curricular books, if any)				books: Katzung & Trevor : Basic and Clinical Pharmacology	

Main references (sources)	Text books
Recommended books and references (scientific journals, reports...)	Articles
Electronic References, Websites	World health organization

Course Description Form

169. Course Name:	
Research Methodology	
170. Course Code: PHG127	
171. Semester / Year:	
2 nd semster / postgraduate	
172. Description Preparation Date:	
4-4-2025	
173. Available Attendance Forms:	
theoretical	
174. Number of Credit Hours (Total) / Number of Units (Total)	
45	
175. Course administrator's name (mention all, if more than one name)	
Name: ا.د حيدر بهاء صاحب Email: dr.hayder.bahaa@nahrainuniv.edu.iq	
176. Course Objectives	
Course Objectives	To introduce pharmacy students to the basis of general pharmacology. The student will learn about various body systems and drugs used to affect them in both healthy and diseased situations. Moreover, the course will cover the drugs used to treat microbial infections....

177. Teaching and Learning Strategies

Strategy	Cognitive goals A1. How to dispense drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program.</u> B1. Drug use skill B2. Blood pressure measures skill B3. patient education skill <u>Teaching and Learning Methods</u> Board ,smart board and power point
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178. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
		1. Understanding the Research Process: Learners should grasp	Process of conducting a scientific research	smart board	Theoretical examination
		2. the steps involved in conducting research, from problem identification to reporting	Ethical issues in conducting research	smart board	Theoretical examination
		3. findings			
		2. Knowledge of Research Designs: Understand different ,research designs (qualitative quantitative, and mixed	How to publish manuscript?	smart board	Theoretical examination

		3. methods) and their appropriate use :Literature Review Skills .۴ Develop the ability to conduct comprehensive literature reviews and critically assess existing research	Literature review and management	smart board	Theoretical examination
		Data Collection and .۵ Sampling: Learn various data collection techniques (e.g surveys, interviews) and sampling methods to ensure representative and reliable results	A data collection: observation	smart board	Theoretical examination
		Data Analysis and .۶ Interpretation: Acquire skills to analyze data using statistical or qualitative methods, and interpret results accurately	foundation of Research methodology	smart board	Theoretical examination
		:Ethical Considerations .۷ Understand the ethical principles in research, including consent, privacy, and research integrity	Preparing a research proposal	smart board	Theoretical examination
		Writing and Reporting .۸ Research: Learn how to write structured research papers and reports, presenting methodology, results, and conclusions effectively	Writing research methodology	smart board	Theoretical examination
		:Critical Thinking .۹ Develop the ability to critically evaluate research designs, methods, and findings and adapt approaches as needed	Questionnaire	smart board	Theoretical examination
		:Use of Tools and Software .۱۰ Become familiar with tools for data analysis (e.g., SPSS, NVivo) and how to apply them	Findings discussion	smart board	Theoretical examination
			Introduction statistics	smart board	Theoretical examination
			Introduction Matlab	smart board	Theoretical examination

179. Course Evaluation					
30% mid exam 70% final exam					
180. Learning and Teaching Resources					
Required textbooks (curricular books, if a					
Main references (sources)			Text books		
Recommended books and references (scientific journals, reports...)			Articles		
Electronic References, Websites			World health organization		

Course Description Form

181.	Course Name:	General toxicology	
182.	Course Code: PHC424		
183.	Semester / Year:	2 nd semster / 4 th year	
184.	Description Preparation Date:	4-4-2025	
185.	Available Attendance Forms:	practical	
186.	Number of Credit Hours (Total) / Number of Units (Total)		
187.	Course administrator's name (mention all, if more than one name)		
	Name:	م د محمد فرید الصيدلاني الاختصاص رغد رحيم Email: rghad.raheem@nahrainuniv.edu.iq	
188.	Course Objectives		
	Course Objectives	To introduce pharmacy students to the basis of general pharmacology. The student will learn about various body systems and drugs used to affect them in both healthy and diseased situations. Moreover, the course will cover the drugs used to treat microbial infections	
189.	Teaching and Learning Strategies		
	Strategy	<u>goals</u> A1. How to dispense drugs A2. Patient education about drug adverse effect A3. How to communicate with patient and educate him A4. How to prepare lectures and seminars <u>The skills goals special to the program .</u>	

B1. Drug use skill
 B2. Blood pressure measures skill
 B3. patient education skill
Teaching and Learning Methods
 Board ,smart board and power point

190. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
			General introduction to toxicology 1 and 2	Practical experiment	Theoretical exam
			Acute toxicity (LD50)	Practical experiment	Theoretical exam
			Nicotine toxicity	Practical experiment	Theoretical exam
			CCL4 and Liver toxicity	Practical experiment	Theoretical exam
			Pesticide toxicity	Practical experiment	Theoretical exam
			Metal toxicity	Practical experiment	Theoretical exam
			Blood toxicity	Practical experiment	Theoretical exam
			Alcohol toxicity	Practical experiment	Theoretical exam
			Drugs induced toxicity	Practical experiment	Theoretical exam
			Strychnine toxicity	Practical experiment	Theoretical exam

191. 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

192. Learning and Teaching Resources

Required textbooks (curriculum books, if any)	books: Katzung & Trevor : Basic and Clinical Pharmacology
Main references (sources)	Text books
Recommended books and references (scientific journals, reports...)	Articles
Electronic References, Website	World health organization