

## Academic Program Description Form

University Name: Al-Nahrain

Faculty/Institute: College of Pharmacy

Scientific Department: Pharmacology

Academic or Professional Program Name: Pharmacology

Final Certificate Name: Bachelor's Degree

Academic System: Courses

Description Preparation Date: 5 / /2026

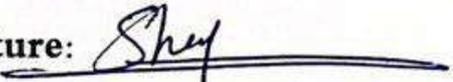
File Completion Date: 11 / /2026

Signature: 

Head of Department Name:

Assist. Prof. Hiba Majid

Date: 25.2.2026

Signature: 

Scientific Associate Name:

Assistant Professor

Dr. Shaimaa Hussein Hammoudi

Date: 28.2.2026

The file is checked by:

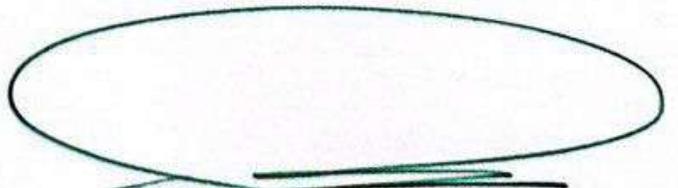
Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Dr. Noor Adil Abood

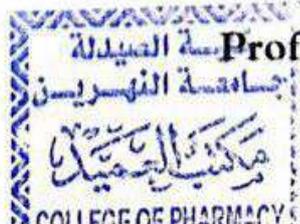
Date: 8/3/2026

Signature: 



Approval of the Dean

Professor Dr. Hayder Bahaa Sahib



**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**

**2026-2025**

## **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		Medical terminology	theoretical	
		Physiology I	theoretical	Practical
Second		Physiology I	theoretical	Practical
		Physiology II	theoretical	Practical
Third		Pharmacology I	theoretical	
Forth		Pharmacology II	theoretical	Practical
Forth		Pharmacology III	theoretical	
Forth		General toxicology	theoretical	Practical
Fifth		Clinical toxicology	theoretical	Practical
Postgraduate Master		Molecular Pharmacology	theoretical	
		Advanced Pharmacology	Theoretical	
		Research methodology	Theoretical	

8. Expected learning outcomes of the program	
<b>Knowledge</b>	
Learning Outcomes 1	Learning Outcomes Statement 1
<b>Skills</b>	

Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
<b>Ethics</b>	
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
Assistant Professor	Pharmacy	Pharmacology		2	أ.م. د محمد فرید أ.م. د هبة ماجد

Lecturer	Pharmacy	Physiology			1	م.د سارة حيدر
Assistant lecturer	Pharmacy	Pharmacology			1	م.م. رغد رحيم
					5	ص. غدير عبدالستار ص. منى حيدر ص. رسل عبدالامير ص. فاطمة عدنان ص. 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		Medical terminology	basic	√	√	√	√	√	√	√		√	√		
		Physiology 1	basic	√	√	√	√	√	√	√		√	√		
Second		Physiology 1	basic	√	√	√	√	√	√	√		√	√		
		Physiology 2	basic	√	√	√	√	√	√	√		√	√		
Third		Pharmacology 1	basic	√	√	√	√	√	√	√		√	√		
Fourth		Pharmacology 2	basic	√	√	√	√	√	√	√		√	√		
		Pharmacology 3	basic	√	√	√	√	√	√	√		√	√		
		General Toxicology	basic	√	√	√	√	√	√	√		√	√		
Fifth		Clinical Toxicology	basic	√	√	√	√	√	√	√		√	√		
Postgraduate		Molecular	basic	√	√	√	√	√	√	√		√	√		

master	Pharmacology														
	Advanced Pharmacology	basic	√	√	√	√	√	√	√		√	√			
	Research methodology	basic	√	√	√	√	√	√	√		√	√			

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluatio**

## Course Description Form

1. Course Name:	
Pharmacology II	
2. Course Code:	
3. Semester / Year:	
1 <sup>st</sup> 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)	
<p>Name: <b>!</b> ا.د حيدر بهاء صاحب          ا.د هيثم محمود كاظم          ا.م.د محمد فريد حميد          ا.م.د هبة ماجد حمود</p> <p>Email:  <b>dr.hayder.bahaa@nahrainuniv.edu.iq</b>  <b>dr.haitham.mahmod@nahrainuniv.edu.iq</b>  <b>dr.mohammed.fared@nahrainuniv.edu.iq</b>  <b>dr.heba.majed@nahrainuniv.edu.iq</b></p>	
8. Course Objectives	
<b>Course Objectives</b>	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	
<b>Strategy</b>	<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  
Teaching and Learning Methods  
 Board ,smart board and power point

### 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	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
1	2	Cover all CNS drugs that caused:-excitement and euphoria, decrease feelings of fatigue, and increase motor activity. -Thought and mood changes	CNS stimulants.	smart board	Theoretical examination
2	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
3	3	Cover all drugs that targeting depressed mood or loss of interest or pleasure in most activities	Antidepressant drugs.	smart board	Theoretical examination
4	3	cover all drugs cause sedation (with concomitant relief of anxiety) or to encourage sleep (hypnosis).	Anxiolytic and Hypnotic drugs.	smart board	Theoretical examination
5	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
5	3	Cover all drugs that interact with the different subtypes of opioid receptors.	Opioid analgesics and antagonists	smart board	Theoretical examination
6	3	Cover all drug targeting Alzheimer's disease (AD), PD and ischaemic brain damage (stroke).	Treatment of neurodegenerative diseases.	smart board	Theoretical examination
7	2	Cover all CNS drugs that targeting epilepsy	Antiepileptic Drugs.	smart board	Theoretical examination
7	2	Cover all drugs that increase urine volume	Diuretics.	smart board	Theoretical examination
8	2	Cover all drugs that improve cardiac function	The treatment of heart failure.	smart board	Theoretical examination

9	2	Cover all drugs that suppress arrhythmias by a direct action on the cardiac cell membrane	Antiarrhythmic drugs.	smart board	Theoretical examination
10	2	Cover all drugs that either improve perfusion of the myocardium or reduce its metabolic demand, or both	Antianginal Drugs.	smart board	Theoretical examination
11	3	Cover all drugs can lower blood pressure	Antihypertensive drugs	smart board	Theoretical examination
12	3	Cover all drugs inhibit thrombosis or limit abnormal bleeding	Drugs affecting the blood.	smart board	Theoretical examination
13	1	Cover all drugs that have lipid-lowering actions	Antihyperlipidemic drugs	smart board	Theoretical examination
14	3	Cover all drugs targeting the gut	Gastrointestinal and antiemetic drugs.	smart board	Theoretical examination
15	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:	
15.	Semester / Year:	1 <sup>st</sup> 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)	<p><b>Name:</b> ا.د حيدر بهاء صاحب  ا.د هيثم محمود كاظم  أ.م.د محمد فريد حميد  أ.م.د هبة ماجد حمود  م.م. رغد رحيم عبد</p> <p>Email: <a href="mailto:dr.hayder.bahaa@nahrainuniv.edu.iq">dr.hayder.bahaa@nahrainuniv.edu.iq</a>  <a href="mailto:dr.haitham.mahmod@nahrainuniv.edu.iq">dr.haitham.mahmod@nahrainuniv.edu.iq</a>  <a href="mailto:dr.mohammed.fared@nahrainuniv.edu.iq">dr.mohammed.fared@nahrainuniv.edu.iq</a>  <a href="mailto:dr.heba.majed@nahrainuniv.edu.iq">dr.heba.majed@nahrainuniv.edu.iq</a>  <a href="mailto:raghad.raheem@nahrainuniv.edu.iq">raghad.raheem@nahrainuniv.edu.iq</a></p>
20.	Course Objectives	
	<b>Course Objectives</b>	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	
	<b>Strategy</b>	<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

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

## 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-symphomimitics on glandular secretion	Practical experiment	Practical exam
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	Practical	Practical exam

			Anesthesia	experiment	
12	2		Opioids analgesics	Practical experiment	Practical exam
13	2		Evaluation NSAID	of 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 any)	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:	
27. Semester / Year:	
2 <sup>nd</sup> 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)	
<p>           ا.د حيدر بهاء صاحب            ا.د هيثم محمود كاظم            أ.م.د محمد فريد حميد            أ.م.د هبة ماجد حمود            م.م. رغد رحيم عبد            Email: <a href="mailto:dr.hayder.bahaa@nahrainuniv.edu.iq">dr.hayder.bahaa@nahrainuniv.edu.iq</a>  <a href="mailto:dr.haitham.mahmod@nahrainuniv.edu.iq">dr.haitham.mahmod@nahrainuniv.edu.iq</a>  <a href="mailto:dr.mohammed.fared@nahrainuniv.edu.iq">dr.mohammed.fared@nahrainuniv.edu.iq</a>  <a href="mailto:dr.heba.majed@nahrainuniv.edu.iq">dr.heba.majed@nahrainuniv.edu.iq</a> </p>	
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  
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

### 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 thypothalamic 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 adrenal steroid hormones . Uses of 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	The gonadal hormones and inhibitors.	smart board	Theoretical examination

		&used therapeutically in replacement therapy, for contraception, and in management of menopausal symptoms, Several antagonists effective in cancer chemotherapy			
	3	Cover the inflammatory process and uses of NSAIDs. All drug use for treatment of rheumatoid arthritis and gout	Non-steroidal anti-inflammatory drugs (NSAIDs) and other anti-gout agents.	smart board	Theoretical examination
	2	Cover all drugs that reduced the bone loss (occurs in elderly people of both sexes but is most pronounced in postmenopausal women)	Drugs used in osteoporosis.	smart board	Theoretical examination
	5	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 (compounds that inhibit the synthesis of certain autacoids or that interfere with their interactions with receptors)	Autacoids and autacoid antagonists Histamin and antihistamin Serotonin	smart board	Theoretical examination
	2	Cover all drugs that improve sexual activity	Drugs used for erectile dysfunction	smart board	Theoretical examination
	2	cover all drugs that have appetite suppressant effects or decrease fat absorption to treat obesity	Drugs used in 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.	<b>Course Name:</b>	Pharmacology I		
38.	<b>Course Code:</b>			
39.	<b>Semester / Year:</b>	2 <sup>nd</sup> semester / third year		
40.	<b>Description Preparation Date:</b>	2-4-2025		
41.	<b>Available Attendance Forms:</b>	Theoretical		
42.	<b>Number of Credit Hours (Total) / Number of Units (Total)</b>	45 hours		
43.	<b>Course administrator's name (mention all, if more than one name)</b>	<p>ا.د حيدر بهاء صاحب  أ.م. د محمد فريد حميد  أ.م. د هبة ماجد حمود</p> <p>Email: <a href="mailto:dr.hayder.bahaa@nahrainuniv.edu.iq">dr.hayder.bahaa@nahrainuniv.edu.iq</a>  <a href="mailto:dr.mohammed.fared@nahrainuniv.edu.iq">dr.mohammed.fared@nahrainuniv.edu.iq</a>  <a href="mailto:dr.heba.majed@nahrainuniv.edu.iq">dr.heba.majed@nahrainuniv.edu.iq</a></p>		
44.	<b>Course Objectives</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"><b>Course Objectives</b></td> <td>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</td> </tr> </table>	<b>Course Objectives</b>	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
<b>Course Objectives</b>	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			
45.	<b>Teaching and Learning Strategies</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>Strategy</b></td> <td> <p style="text-align: center;">Cognitive goal</p> <p>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</p> <p>The skills goals special to the program .</p> </td> </tr> </table>	<b>Strategy</b>	<p style="text-align: center;">Cognitive goal</p> <p>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</p> <p>The skills goals special to the program .</p>
<b>Strategy</b>	<p style="text-align: center;">Cognitive goal</p> <p>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</p> <p>The skills goals special to the program .</p>			

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

46. Course Structure

Week	Hou rs	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 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</i>	The autonomic nervous system (ANS).	smart board	Theoretical examination

		<i>integration of the ANS</i>			
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 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	Principal of antimicrobial therapy.	smart board	Theoretical examination

		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.			
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, fosfomicin, and bacitracin also inhibit cell wall synthesis but are not nearly as important as the beta-lactam drugs</i>	$\beta$ -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</i>	Protein synthesis inhibitors	smart board	Theoretical examination

		<i>to those of mammalian cells</i>			
11	3	<p>Describe how sulfonamides and trimethoprim affect bacterial folic acid synthesis and how resistance to the antifolate drugs occurs.</p> <p>Identify major clinical uses of sulfonamides and trimethoprim, singly and in combination, and describe their characteristic pharmacokinetic properties and toxic effects</p> <p>Describe how fluoroquinolones inhibit nucleic acid synthesis and identify mechanisms involved in bacterial resistance to these agents.</p> <p>List the major clinical uses of fluoroquinolones and describe their characteristic pharmacokinetic properties and toxic effects.</p>	Quinolones, Folate antagonists, and urinary tract antiseptics.	smart board	Theoretical examination
12	2	<p>List 5 special problems associated with chemotherapy of mycobacterial infections.</p> <p>Identify the characteristic pharmacodynamic and pharmacokinetic</p>	Antimycobacterium drugs	smart board	Theoretical examination

		<p>properties of isoniazid and rifampin.</p> <p>List the typical adverse effects of ethambutol, pyrazinamide, and streptomycin.</p> <p>Describe the standard protocols for drug management of latent tuberculosis, pulmonary tuberculosis, and multidrug-resistant tuberculosis.</p> <p>Identify the drugs used in leprosy and in the prophylaxis and treatment of <i>M avium-intracellulare</i> complex disease.</p>			
13	2	<p>Describe the mechanisms of action of the azole, polyene, and echinocandin antifungal drugs.</p> <p>Identify the clinical uses of amphotericin B, flucytosine, individual azoles, caspofungin, griseofulvin, and terbinafine.</p> <p>Describe the pharmacokinetics and toxicities of amphotericin B.</p> <p>Describe the pharmacokinetics, toxicities, and drug interactions of the azoles.</p> <p>Identify the main topical antifungal</p>	Antifungal drugs.	smart board	Theoretical examination

		agents.			
14	2	<p>Name the major antimalarial drugs. Know which are used for chemoprophylaxis, which are effective in chloroquine resistance, and which are exoerythrocytic schizonticides.</p> <p>☐☐ Identify the characteristic adverse effects of the major antimalarial drugs.</p> <p>☐☐ Describe the clinical uses and adverse effects of metronidazole.</p> <p>☐☐ Identify the intestinal amebicides.</p> <p>☐☐ Identify the drugs used for prophylaxis and treatment of pneumocystosis and toxoplasmosis, and know their characteristic toxic effects.</p> <p>☐☐ Identify the major drugs used for trypanosomiasis and leishmaniasis, and know their characteristic toxic effects.</p>	Antiprotozoal drugs.	smart board	Theoretical examination
		List the clinical uses and the adverse effects of albendazole/mebendazole, diethylcarbamazine, ivermectin, and	Anthelmintic drugs.	smart board	Theoretical examination

		<p>pyrantel pamoate.</p> <p>☐☐ 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.</p> <p>☐☐ Describe the clinical use and adverse effects of benzimidazole drugs: praziquantel and mebendazole, and niclosamide.</p>			
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#### 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:
51. Semester / Year:
1 <sup>st</sup> 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: أ.م. د محمد فريد حميد أ.م. د 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>

## 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		Toxicity of Prescription Medications: Cardiovascular drugs; Digoxin ; beta blockers	smart board	Theoretical examination

		Cover the Signs and symptoms associated with these drugs poisoning ,also describe the cardiovascular outcomes that follow the toxicity	and ACE inhibitors.. Toxicity of Prescription Medications: Cardiovascular drugs : Calcium channel blocker and Antiarrhythmic agents.	smart board	Theoretical examination
5	2				
6	2	Cover manifestations toxicity management anticholinergic,antidepressant antipsychotic drugs	Toxicity Prescription Medications: A cholinergic, phenothiazines; TC	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	Coverthe 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	Chemical and Environmental Toxins: Disinfectants, ampor and moth repellents	smart board	Theoretical examination

13	2	toxicity and management of these chemicals that may cause toxicity specially in children	Chemical and Environmental Toxins: Hydrocarbones;	smart board	Theoretical examination
<b>59. Course Evaluation</b>					
Seminar 10% , quizzes 10% , mid exam 20% , final exam 60%					
<b>60. Learning and Teaching Resources</b>					
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

<b>61. Course Name:</b>
General Toxicology
<b>62. Course Code:</b>
<b>63. Semester / Year:</b>
Second semester – Fourth year
<b>64. Description Preparation Date:</b>
2-4-2025
<b>65. Available Attendance Forms:</b>
<b>66. Number of Credit Hours (Total) / Number of Units (Total)</b>
<b>67. Course administrator's name (mention all, if more than one name)</b>
Name
أ.م.د محمد فريد حميد أ.م.د هبة ماجد حمود
Email:
<b>dr.mohammed.fared@nahrainuniv.edu.iq</b>
<b>dr.heba.majed@nahrainuniv.edu.iq</b>

:

## 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 risks 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, classification of toxic agents , spectrum of undesired effects, and characteristic of exposure	Introduction: general consideration; host factor, environmental factors of toxic effects.	smart board	Theoretical examination
2	2	Cover the undesired effects of different toxic agents on biological 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 metal chemical mechanism of metal toxicity, major toxic metals.	Toxic substances: Metals	smart board	Theoretical examination
10	3		Food additive and contaminants Pesticides	smart board	Theoretical examination
11	2		Solvents,	smart board	Theoretical examination
12	2		Plants	smart board	Theoretical examination
13	2	Radiation background Types of ionizing radiation Relative biologic effectiveness and Quality factors Units of radiation activity and dose	Radiation and radioactive materials	smart board	Theoretical examination
14	2	Cover : definition of cancer, multistage of carcinogenesis, 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:	
75. Semester / Year:	
	2 <sup>nd</sup> semester / 1 <sup>st</sup> year
76. Description Preparation Date:	
	20/11/2025
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.د. 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

## 81. Teaching and Learning Strategies

<b>Strategy</b>	<p><u>Cognitive goals</u></p> <p>A. To learn the principle of human physiology and the body organized.</p> <p>B. To learn the cell structure, functions, and signaling</p> <p>C. To learn how the nervous system works.</p> <p><u>The skills goals special to the program .</u></p> <ol style="list-style-type: none"> <li>1. Identify core principles of human physiology and how the body is structurally organized.</li> <li>2. Interpret cellular structure, functions, and signaling mechanisms relevant to body regulation.</li> <li>3. Explain fundamental nervous system processes and their role in coordinating body responses.</li> </ol> <p><u>Teaching and Learning Methods</u></p> <p>Board ,smart board and power point</p>
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## 82. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	understand the structural hierarchy of the body, the interrelationship between form and function.	Introduction to physiology: The Scope of Human Physiology; How Is the Body Organized?; Body Fluid Compartments.	smart board	Theoretical examination
2	2	1) understand the structural hierarchy of the body, the interrelationship between form and function	1) Body Fluid Compartments.	smart board	Theoretical examination



			Secretion		
5	3	understanding the cell as the fundamental unit of life and the biochemical processes that sustain it	Interactions Between Proteins and Ligands: Binding Site Characteristics; Regulation of Protein-Binding Activity  Chemical Reactions and Enzymes: Chemical Reactions; Enzymes; Regulation of Enzyme-Mediated Reactions; Multienzyme Reactions	smart board	Theoretical examination
6	2	1) understanding the cell as the fundamental unit of life and the biochemical processes that sustain it	1) Metabolic Pathways: Cellular Energy Transfer; Carbohydrate, Fat, and Protein Metabolism; Essential Nutrients	smart board	Theoretical examination
	1	2) understanding the mechanisms cells use to control what enters and exits the internal environment	2) Movement of Molecules across Cell Membranes: Diffusion;		
7	3	understanding the mechanisms cells use to control what enters and exits the internal environment	Movement of Molecules across Cell Membranes: Mediated-Transport Systems; Osmosis; Endocytosis and Exocytosis	smart board	Theoretical examination
8	3	understanding the mechanisms cells	Movement of Molecules across	smart board	Theoretical examination

		use to control what enters and exits the internal environment	Cell Membranes: Epithelial Transport		
9	3	understanding how cells communicate internally and with each other to coordinate bodily functions.	Cell signaling in physiology: receptors	smart board	Theoretical examination
10	3	understanding how cells communicate internally and with each other to coordinate bodily functions.	Cell signaling in physiology: Signal Transduction Pathways	smart board	Theoretical examination
11	3	understanding the fundamental units of the nervous system and how they transmit information throughout the body	Cells of the Nervous System: Structure and Maintenance of Neurons: Functional Classes of Neurons; Glial Cells, Neural Growth and Regeneration  Membrane Potentials: Basic Principles of Electricity; The Resting Membrane Potential, Graded Potentials and Action Potentials	smart board	Theoretical examination
12	3	understanding the fundamental units of the nervous system and how they transmit information throughout the body	Synapses: Functional Anatomy of Synapses, Mechanisms of Neurotransmitter Release; Activation of the Postsynaptic Cell, Synaptic Integration, Synaptic Strength, Neurotransmitters and	smart board	Theoretical examination

			Neuromodulators, Neuroeffector Communication		
13	3	understanding the fundamental units of the nervous system and how they transmit information throughout the body	Structure of the Nervous System: CNS: Brain, Spinal Cord; PNS: Autonomic Nervous System, Protective Elements Associated with the Brain	smart board	Theoretical examination
14	3	understand how environmental stimuli are detected, converted into neural signals, and interpreted by the brain as sensation and perception.	Sensory physiology: Sensory Systems and Receptors, Primary Sensory Coding, Ascending Neural Pathways in Sensory Systems, Association Cortex and Perceptual Processing	smart board	Theoretical examination
15	3	understand how environmental stimuli are detected, converted into neural signals, and interpreted by the brain as sensation and perception.	Specific Sensory Systems: Somatic Sensation, Vision, Audition, Vestibular System, Chemical Senses	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)	Vander's Human physiology: the mechanisms of body function. Eric P. Widmaier, Hershel Raff, Kevin T. Strang, last edition
Main references (sources)	Text books
Recommended books and references	Articles

(scientific journals, reports...)	
Electronic References, Websites	World health organization

### Course Description Form

1. Course Name:	
Physiology I	
2. Course Code:	
3. Semester / Year:	
2 <sup>nd</sup> semseter / 1 <sup>st</sup> year	
4. Description Preparation Date:	
10/2/2026	
5. Available Attendance Forms:	
Practical	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30	
7. Course administrator's name (mention all, if more than one name)	
Name: م.د. سارة حيدر خالد	
Email: <a href="mailto:sara.haider@nahrainuniv.edu.iq">sara.haider@nahrainuniv.edu.iq</a>	
Name: م.م. رغد رحيم	
Email: raghad.raheem@nahrainuniv.edu.iq	
8. Course Objectives	
<b>Course Objectives</b>	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.

## 9. Teaching and Learning Strategies

<b>Strategy</b>	<p><u>Cognitive goals</u>  A1. How to measures the body temperature?  A2. How to calculate total WBCs &amp; Differential WBCs?  A3. How to communicate with patient and educate him  A4. How to calculate glucose level by OGTT?</p> <p><u>The skills goals special to the program .</u>  B1. temperature measure skills  B2. Blood pressure measures skill  B3. patient education skill</p> <p><u>Teaching and Learning Methods</u>  Board ,smart board and power point</p>
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## 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Learning how to accurately assess, record, and interpret temperature as a primary vital sign.	Measurement of body temperature	Practical experiment	Practical exam
2	2	Tutorial	Tutorial	Practical experiment	Practical exam
3	2	Learning how to measure blood pressure	Blood pressure.	Practical experiment	Practical exam
4	2	Tutorial	Tutorial	Practical experiment	Practical exam
5	2	understand the movement of water	Osmosis across plasma	Practical experiment	Practical exam

		across a semipermeable membrane and its impact on cellular integrity.	membrane		
6	2	Tutorial	Tutorial	Practical experiment	Practical exam
7	2	Learning how to estimate glucose level by oral glucose tolerance test	Blood Glucose (Oral Glucose Tolerance Test)	Practical experiment	Practical exam
8	2	Tutorial	Tutorial	Practical experiment	Practical exam
9	2	Understand the types & functions blood composition	General physiology of blood.	Practical experiment	Practical exam
10	2	Tutorial	Tutorial.	Practical experiment	Practical exam
11	2	Learning how to count white blood cells	Total W.B.C. count	Practical experiment	Practical exam
12	2	Learning how to count different types of white blood cells	Differential W.B.C count	Practical experiment	Practical exam
13	2	Tutorial	Tutorial.	Practical experiment	Practical exam
14	2	Understand how visual system interacts with brain; how visual system detects & interprets motion / color	Examination of vision	Practical experiment	Practical exam
15	2	Tutorial	Tutorial.	Practical experiment	Practical 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

### 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Physiology laboratory manual
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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:	
87. Semester / Year:	1 <sup>st</sup> semester / 2 <sup>nd</sup> year
88. Description Preparation Date:	4/5/2025
89. Available Attendance Forms:	Theoretical
90. Number of Credit Hours (Total) / Number of Units (Total)	45
91. Course administrator's name (mention all, if more than one name)	Name: م.د. سارة حيدر خالد Email: sara.haider@nahrainuniv.edu.iq
92. Course Objectives	
<b>Course Objectives</b>	<ul style="list-style-type: none"> <li>To help students understand the basic principles of physiological functions of different tissues and organs of the human being, and how</li> </ul>

evaluate these functions and correlate them with normal and abnormal conditions. It emphasizes the role of homeostatic and hemodynamic changes and the integration of physiological status

### 93. Teaching and Learning Strategies

<b>Strategy</b>	<p><u>Cognitive goals</u>  A1. How to measure the physiological functions  A2. How to read &amp; understand ECG &amp; EEG?  A3. How to communicate with patient and educate him  A4. How to prepare lectures and seminars</p> <p><u>The skills goals special to the program .</u>  B1. Cardiac output &amp; respiratory rates measure skills  B2. Blood pressure measure skill  B3. patient education skill</p> <p><u>Teaching and Learning Methods</u>  Board ,smart board and power point</p>
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### 94. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Understand general concept of function of body organs	General and cellular basis of medical physiology	smart board	Theoretical examination
2	2  1	1) Understand general concept of function of body organs  2) Understand the function of nerve and tissue	1) General and cellular basis of medical physiology  2) Physiology of nerves and muscles	smart board	Theoretical examination
3	3	Understand the function of nerve and tissue	Physiology of nerves and muscles	smart board	Theoretical examination

4	3	Understand the action potential	Characteristic of excitable tissue	smart board	Theoretical examination
5	3	Understand transition of signals	Synaptic transmission	smart board	Theoretical examination
6	3	Understand the physiology of autonomic nervous system	The autonomic nervous system.	smart board	Theoretical examination
7	3	1) Understand signal transition between nerves and muscles 2) Understand the component and the functions of muscles and their regulations	Neuromuscular junction Muscles: skeletal; smooth & cardiac muscles	smart board	Theoretical examination
8	3	understand pulmonary ventilation and function	Respiration:	smart board	Theoretical examination
9	3		Respiration:	smart board	Theoretical examination
10	2  1	1) understand pulmonary ventilation and function 2) Understand the body fluid Compartments and the function of the kidney	1) Respiration  2) Renal physiology	smart board	Theoretical examination
11	3	Understand the body	Renal	smart board	Theoretical examination

		fluid Compartments	Physiology		
12	3	and the function of the kidney =	Renal Physiology	smart board	Theoretical examination
13	1	1) Understand the body fluid Compartments and the function of the kidney	Cardiovascular system	smart board	Theoretical examination
	2	2) understand physiology of heart and circulatory system			
14	3	understand physiology of heart and circulatory system	Cardiovascular system	smart board	Theoretical examination
15	3		Cardiovascular system	smart board	Theoretical examination

### 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)	<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

13.	Course Name:	Physiology I
14.	Course Code:	
15.	Semester / Year:	1 semester / 2 <sup>nd</sup> year
16.	Description Preparation Date:	4/5/2025
17.	Available Attendance Forms:	Practical
18.	Number of Credit Hours (Total) / Number of Units (Total)	30
19.	Course administrator's name (mention all, if more than one name)	<p>Name: م.د. سارة حيدر خالد</p> <p>Email: <a href="mailto:sara.haider@nahrainuniv.edu.iq">sara.haider@nahrainuniv.edu.iq</a></p> <p>Name: م.م. رغد رحيم</p> <p>Email: <a href="mailto:raghad.raheem@nahrainuniv.edu.iq">raghad.raheem@nahrainuniv.edu.iq</a></p>
20.	Course Objectives	
	<b>Course Objectives</b>	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.

## 21. Teaching and Learning Strategies

<b>Strategy</b>	<p><u>Cognitive goals</u>            A1. How to measures the respiratory rates &amp; volumes?            A2. How to detect blood group?            A3. How to communicate with patient and educate him            A4. How to prepare lectures and seminars</p> <p><u>The skills goals special to the program .</u>            B1. respiratory rates measure skills            B2. Blood pressure measures skill            B3. patient education skill</p> <p><u>Teaching and Learning Methods</u>            Board ,smart board and power point</p>
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## 22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Understand the respiratory function	Experiments on respiratory system (respiratory rate and volumes).	Practical experiment	Practical exam
2	2		Experiments on respiratory system (respiratory rate and volumes).	Practical experiment	Practical exam
3	2	Understand the types & functions blood composition	Introduction to blood physiology.	Practical experiment	Practical exam
4	2	Learning how to determine blood group	Blood typing and blood transfusion.	Practical experiment	Practical exam
5	2	Tutorial	Tutorial.	Practical experiment	Practical exam
6	2	Learning how to estimate packed cell volume	Packed cell volume.	Practical experiment	Practical exam
7	2	Learning how to	Determination	Practical	Practical exam

		estimate hemoglobin concentration	of hemoglobin concentration.	experiment	
8	2	Learning how to estimate MCV, MCHC, Color index & MCH	Blood indices.	Practical experiment	Practical exam
9	2	Learning how to measure bleeding and clotting time	Determination of bleeding time and clotting time.	Practical experiment	Practical exam
10	2	Tutorial	Tutorial.	Practical experiment	Practical exam
11	2	Learning how to measure blood pressure	Blood pressure.	Practical experiment	Practical exam
12	2	Understand the effect of exercise on blood pressure (changes the blood pressure)	Effect of exercise on blood pressure.	Practical experiment	Practical exam
13	2		Effect of exercise on blood pressure.	Practical experiment	Practical exam
14	2	Tutorial	Tutorial.	Practical experiment	Practical exam
15	2	Final exam	Final exam		

### 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)	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

25.	Course Name:	Physiology II
26.	Course Code:	
27.	Semester / Year:	2 <sup>nd</sup> semester / 2 <sup>nd</sup> year
28.	Description Preparation Date:	4/5/2025
29.	Available Attendance Forms:	Theoretical
30.	Number of Credit Hours (Total) / Number of Units (Total)	45
31.	Course administrator's name (mention all, if more than one name)	Name: م.د. سارة حيدر خالد Email: sara.haider@nahrainuniv.edu.iq
32.	Course Objectives	
<b>Course Objectives</b>	To help students understand the basic principles of physiological functions different tissues and organs of the human being, and how to evaluate the functions and correlate them with the normal and abnormal conditions emphasizes on the role of homeostatic and hemodynamic changes in integration of physiological status.	
33.	Teaching and Learning Strategies	
<b>Strategy</b>	<u>Cognitive goals</u> A1. How to measure the different blood cells & blood group A2. How to interpretate of endocrine hormone level? 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. hormone measure skills  
 B2. Blood group measures skill  
 B3. patient education skill  
Teaching and Learning Methods  
 Board ,smart board and power point

### 34. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Understand the endocrine system physiology	Basic Concepts of Endocrine Regulation : evolution of hormones & their actions on target cells; hormone synthesis and secretion; hormone transport in the blood; hormone action; principles of feedback control	smart board	Theoretical examination
2	3	Understand the physiology of hypothalamus & related hormones	Hypothalamic Regulation of Hormonal Functions: relation to the pituitary gland; relation to autonomic function; thirst; other factors regulating water intake; control of posterior pituitary secretion vasopressin & oxytocin; biosynthesis, intraneuronal transport, & secretion ;electrical activity of magnocellular neurons; vasopressin & oxytocin in other locations; control of anterior pituitary secretion	smart board	Theoretical examination
3	3	Understand the physiology of pituitary glands & related hormones	The Pituitary Gland: cell types in the anterior pituitary; growth hormone biosynthesis & chemistry; plasma levels, binding, & metabolism; growth hormone receptors; "effects on growth, effects on protein& electrolyte homeostasis, effects on	smart board	Theoretical examination

			carbohydrate& fat metabolism"; somatomedins		
4	3	Understand the physiology of thyroid hormone	Thyroid Metabolic Hormones •formation & secretion of thyroid hormones •transport & metabolism of thyroid hormones •regulation of thyroid secretion •mechanism of action	smart board	Theoretical examination
5	3	Understand the physiology of adrenal gland	The Adrenal Medulla & Adrenal Cortex •adrenal medulla: structure & function of medullary hormones •regulation of adrenal medullary secretion •adrenal cortex: structure & biosynthesis of adrenocortical hormones •transport, metabolism, & excretion of adrenocortical hormones •effects of adrenal androgens & estrogens •physiologic effects of glucocorticoids •pharmacologic & pathologic effects of glucocorticoids •regulation of glucocorticoid secretion •effects of mineralocorticoids •regulation of aldosterone secretion •role of mineralocorticoids in the regulation of salt balance	smart board	Theoretical examination
6	3	Understand the hormones that affect on calcium & phosphate levels ; & bone physiology	Hormonal Control of Calcium & Phosphate Metabolism & the Physiology of Bone •calcium & phosphorus metabolism •vitamin d & the hydroxycholecalciferols •the parathyroid glands	smart board	Theoretical examination

			<ul style="list-style-type: none"> <li>•calcitonin</li> <li>• effects of other hormones &amp; humoral agents on calcium metabolism</li> <li>•bone physiology</li> </ul>		
7	3	Understand the male reproductive system	<ul style="list-style-type: none"> <li>Function of the Male Reproductive System</li> <li>•the male reproductive system</li> <li>•endocrine function of the testes</li> <li>•control of testicular function</li> <li>•testosterone and other male sex hormones</li> </ul>	smart board	Theoretical examination
8	3	Understand the female reproductive system	<ul style="list-style-type: none"> <li>Reproductive Development &amp; Function of the Female Reproductive System</li> <li>•sex differentiation &amp; development</li> <li>•the female reproductive system</li> <li>•ovarian hormones</li> <li>•control of ovarian function</li> </ul>	smart board	Theoretical examination
9	3	Understand the hormonal changes during Puberty, menopause, fertilization pregnancy & lactation	<ul style="list-style-type: none"> <li>Puberty, menopause, fertilization pregnancy &amp; lactation</li> </ul>	smart board	Theoretical examination
10	3	Understand the endocrine function of pancreas	<ul style="list-style-type: none"> <li>Endocrine Functions of the Pancreas &amp; Regulation of Carbohydrate Metabolism</li> <li>•structure, biosynthesis, &amp; secretion of insulin</li> <li>•fate of secreted insulin</li> <li>•mechanism of action</li> <li>•consequences of insulin deficiency</li> <li>•regulation of insulin secretion</li> <li>•glucagon</li> <li>•other islet</li> </ul>	smart board	Theoretical examination

			cell hormones •hypoglycemia & diabetes mellitus in humans		
11	3	Understand the physiology of GIT function and regulation	overview of gastrointestinal function and regulation •gastrointestinal secretion •gastrointestinal regulation •hormones and paracrine •enteric nervous system	smart board	Theoretical examination
12	3	Understand the food digestion & absorption	digestion absorption and nutritional principle •digestion and absorption of carbohydrate •protein and nucleic acid •lipids	smart board	Theoretical examination
13	3	Understand the GIT motility	gastrointestinal motility •general pattern of motility •segment-specific pattern of motility •stomach •small intestine •colon	smart board	Theoretical examination
14	3	Understand the role of liver & biliary system in GIT	transport and metabolic function of the liver •function of liver •biliary system	smart board	Theoretical examination
15	3	Understand the physiology of blood composition & lymphatic system	blood as a circulatory fluid and dynamic of blood and lymph flow •blood as circulatory fluids •bone marrow •white blood cells •platelets •red blood cells •blood types •plasma •hemostasis •lymph •structural feature of circulation	smart board	Theoretical examination

### 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)	<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)	Articles

journals, reports...)	
Electronic References, Websites	World health organization

## Course Description Form

1. Course Name:	
Physiology II	
2. Course Code:	
3. Semester / Year:	
2 <sup>nd</sup> / second	
4. Description Preparation Date:	
4/5/2025	
5. Available Attendance Forms:	
Practical	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30	
7. Course administrator's name (mention all, if more than one name)	
Name: م.د. سارة حيدر خالد	
Email: <a href="mailto:sara.haider@nahrainuniv.edu.iq">sara.haider@nahrainuniv.edu.iq</a>	
Name: م.م. رغد رحيم	
Email: raghad.raheem@nahrainuniv.edu.iq	
8. Course Objectives	
<b>Course Objectives</b>	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.
9. Teaching and Learning Strategies	
<b>Strategy</b>	<u>Cognitive goals</u>

A1. How to measure the WBCs, RBCs & platelet count?  
 A2. How to measure the differential WBCs count & ESR?  
 A3. How to communicate with patient and educate him  
 A4. How to prepare lectures and seminars

The skills goals special to the program .

B1. Renal function measure skills

B2. Visual system measures skill

B3. patient education skill

Teaching and Learning Methods

Board ,smart board and power point

### 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Learning how to count different types of white blood cells	Differential W.B.C count	Practical experiment	Practical exam
2	2	Tutorial	Tutorial	Practical experiment	Practical exam
3	2	Learning how to count white blood cells	Total W.B.C. count	Practical experiment	Practical exam
4	2	Tutorial	Tutorial	Practical experiment	Practical exam
5	2	Learning how to count red blood cells	Red blood cell counting	Practical experiment	Practical exam
6	2	Tutorial	Tutorial	Practical experiment	Practical exam
7	2	Learning how to count platelets	Platelets counting	Practical experiment	Practical exam
8	2	Tutorial	Tutorial	Practical experiment	Practical exam
9		Learning how to estimate erythrocyte sedimentation rate	Erythrocyte sedimentation rate (ESR)	Practical experiment	Practical exam
10		Tutorial	Tutorial	Practical experiment	Practical exam

11	2	Learning how to estimate glucose level by oral glucose tolerance test	Insulin regulation of blood glucose	Practical experiment	Practical exam
12	2	Learning the function of kidneys and body hemostasis	Renal physiology	Practical experiment	Practical exam
13	2	Tutorial and review	Tutorial and review	Practical experiment	Practical exam
14	2	Understand how visual system interacts with brain; how visual system detects & interprets motion / color	Some experiments on vision	Practical experiment	Practical exam
15	2	Tutorial and review	Tutorial and review	Practical experiment	Practical 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

### 12. 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

37. Course Name:	
Medical terminology	
38. Course Code:	
39. Semester / Year:	
1 <sup>st</sup> semester / 1 <sup>st</sup> year	
40. Description Preparation Date:2-4-2025	
41. Available Attendance Forms:	
Theoretical	
42. Number of Credit Hours (Total) / Number of Units (Total)	
15	
43. Course administrator's name (mention all, if more than one name)	
Name: م.م رغد رحيم عبد حسن	
Email: <a href="mailto:raghad.raheem@nahrainuniv.edu.iq">raghad.raheem@nahrainuniv.edu.iq</a>	
44. Course Objectives	
<b>Course Objectives</b>	To teach students how to pronounce, spell and define medical and pharmaceutical terms used in health care settings. It will use a word-build 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.
45. Teaching and Learning Strategies	
<b>Strategy</b>	<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  
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

#### 46. 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 abnormal conditions	smart board	Theoretical examination
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	smart board	Theoretical examination

			statistics		
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

#### 47. Course Evaluation

30% mid exam , 70% final exam

#### 48. Learning and Teaching Resources

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

## Course Description Form

49.	Course Name:	<b>Clinical Toxicology</b>
50.	Course Code:	
51.	Semester / Year: fifth	1 <sup>st</sup> semster / fifth year
52.	Description Preparation Date:	2-4-2025
53.	Available Attendance Forms:	<b>Practical</b>
54.	Number of Credit Hours (Total) / Number of Units (Total)	
55.	Course administrator's name (mention all, if more than one name)	
	Name: م.م رغد رحيم عبد حسن	
	Email: <a href="mailto:raghad.raheem@nahrainuniv.edu.iq">raghad.raheem@nahrainuniv.edu.iq</a>	
56.	Course Objectives	
	<b>Course Objectives</b>	<ul style="list-style-type: none"> <li>• .....</li> <li>To provide students with the principles and skills the toxicity of chemicals and drugs in clinical settings and symptoms of toxicity with the analytical data, preventive and therapeutic measures for poisoning</li> <li>• .....</li> <li>• .....</li> </ul>
57.	Teaching and Learning Strategies	

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

W	H	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
		1. Understanding Toxicology	Botulim toxin	Smart board	Theoretical examination
		Principles:	Snake bite	Smart board	Theoretical examination
		2. Identification	Ammonia	Smart board	Theoretical examination
		Diagnosis	Castor	Smart board	Theoretical examination
		Poisoning	dantrolene	Smart board	Theoretical examination
		3. Knowledge	methanol	Smart board	Theoretical examination
		Common Toxins	chloroquine	Smart board	Theoretical examination
		4. Interpretation	eucayptus	Smart board	Theoretical examination
		Laboratory Tests:	Boric acid	Smart board	Theoretical examination
		5. Treatment	amrinone	Smart board	Theoretical
		Management			
		Poisoning:			
		Ability to ap			
		appropriate			

	<p>management strategies</p> <p>poisoning, including decontamination (e.g., activated charcoal, gastric lavage), antidote therapy (e.g., naloxone for opioid poisoning), and supportive care.</p> <p>6. Use of Antidotes and Supportive Therapies:</p>			examinator
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### 59. Course Evaluation

5% seminar 5%quiz 10%final exam

### 60. Learning and Teaching Resources

Required textbooks (curriculum 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 Websites	World health organization

## Course Description Form

61.	Course Name:	
	<b>Moleclar Pharmacology</b>	
62.	Course Code:	
63.	Semester / Year:	1 <sup>st</sup> semster post graudate
64.	Description Preparation Date:	2-4-2025
65.	Available Attendance Forms:	Thertical
66.	Number of Credit Hours (Total) / Number of Units (Total)	45 hours
67.	Course administrator's name (mention all, if more than one name)	
	Name:	اد حيدر بهاء صاحب اد هيثم محمود كاظم
	Email:	<b>dr.hayder.bahaa@nahrainuniv.edu.iq</b> <b>dr.haitham.mahmod@nahrainuniv.edu.iq</b>
	Email:	
68.	Course Objectives	
	<b>Course Objectives</b>	To introduce pharmacy students to the ba of general pharmacology.The student v learn about various body systems and dr used to affect them in both healthy a diseased situations.Moreover, the course v cover the drugs used to treat microb infections.....
69.	Teaching and Learning Strategies	

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

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

		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).	<b>Blocking Drugs</b>		
	2	Covers Drugs with The sympathomimetics constitute a very important group of drugs used for cardiovascular, respiratory, and other conditions	<b>Adrenoceptor Agonists &amp; Sympathomimetic Drugs</b> <b>Adrenoceptor Antagonist Drugs</b>	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	<b>Antihypertensive Agents</b>	smart board	Theoretical examination
	2		<b>Vasodilators &amp; the Treatment of Angina Pectoris</b>	smart board	Theoretical examination
	4	also	<b>agents Used in Cytopenias; Hematopoietic Growth Factors, Drugs Used in Disorders of Coagulation</b>	smart board	Theoretical examination
	4		<b>Drugs Used in Heart Failure</b> <b>Drugs Used in Heart Failure</b> <b>Diuretic Agents</b>	smart board	Theoretical examination
	4	Cover the all drugs that affect lipids levels in blood and cover the uses of NSAIDs All drug use	<b>Agents Used in Dyslipidemia</b> <b>Nonsteroidal Anti-Inflammatory Drugs, Disease-Modifying</b>	smart board	Theoretical examination

		treatment rheumatoid arthritis and	<b>Antirheumatic Drugs, Nonopioid Analgesics, &amp; Drugs Used in Gout</b>		
<b>71. Course Evaluation</b>					
30% mid exam 70% fina exam					
<b>72. Learning and Teaching Resources</b>					
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

73.	Course Name:	
	<b>Advanced Pharmacology</b>	
74.	Course Code:	
75.	Semester / Year:	
	2 <sup>nd</sup> semester/ postgraduate	
76.	Description Preparation Date:	
	4-4-2025	
77.	Available Attendance Forms:	
	theoretical	
78.	Number of Credit Hours (Total) / Number of Units (Total)	
	45 hors	
79.	Course administrator's name (mention all, if more than one name)	
	<b>Name:</b> اد حيدر بهاء صاحب اد هيثم محمود كاظم  Email: <a href="mailto:dr.hayder.bahaa@nahrainuniv.edu.iq">dr.hayder.bahaa@nahrainuniv.edu.iq</a>  <a href="mailto:dr.haitham.mahmod@nahrainuniv.edu.iq">dr.haitham.mahmod@nahrainuniv.edu.iq</a> Email:	
80.	Course Objectives	
	<b>Course Objectives</b>	To introduce pharmacy students to the basis of general pharmacology. The student will learn about various biological systems and drugs used to affect them in both healthy and diseased situations. Moreover, the course will cover drugs used to treat microbial infections....
81.	Teaching and Learning Strategies	
	<b>Strategy</b>	<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

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

82. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
	2	Cover the drugs that affect the central role of thyroid presented . In addition, drugs affected	<b>Hypothalamic &amp; Pituitary Hormones Thyroid &amp; Antithyroid Drugs</b>	smart board	Theoretical examination
	2	Cover the role of peptide Cover the physiologic replacement therapy; in	<b>Adrenocorticosteroids &amp; Adrenocortical Antagonists, The Gonadal Hormones &amp; Inhibitors</b>	smart board	Theoretical examination
	2	Sex hormones produce embryonic maturation, characteristics at puberty & used therapeutically in therapy, for contraceptive symptoms, Several antagonists are	<b>Pancreatic Hormones &amp; Antidiabetic Drugs, Agents That Affect Bone Mineral Homeostasis</b>	smart board	Theoretical examination
	6	introduction to the functions of drugs Cover all CNS drugs that cause -Thought and mood Cover all drugs that could cause external stimuli. -loss of sensation in a limited Cover all drugs that target cover all drugs cause sedative	<b>Sedative-Hypnotic Drugs, Antiseizure Drugs . General and Local Anesthetics Skeletal Muscle Relaxants. Antipsychotic Agents, Antidepressant</b>	smart board	Theoretical examination

		<p>anxiety) or to encourage sleep</p> <p>Cover all drugs are able to reduce anxiety, depression, or psychotic depression</p> <p>Cover all drugs that interact with the CNS</p> <p>Cover all drug targeting All</p> <p>Cover all CNS drugs that target the CNS</p>	<p><b>Agents</b></p> <p><b>Opioid Agonists &amp; Antagonists</b></p>		
	4	<p>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.</p>	<p><b>Beta-Lactam &amp; Other Cell Wall- &amp; Membrane-Active, Tetracyclines, Macrolides, Clindamycin, Chloramphenicol, 46. Sulfonamides, Trimethoprim, &amp; Quinolones</b></p> <p><b>Antimycobacterial Drugs, Antifungal Agents, Antiviral Agents</b></p>	smart board	Theoretical examination
	2	Covers all drugs used in the treatment of cancer and immunological diseases	<b>Cancer Chemotherapy</b>	smart board	Theoretical examination
	2		<b>Immunopharmacology</b>	smart board	Theoretical examination
	4		<p><b>Introduction to Toxicology:</b></p> <p><b>Occupational &amp; Environmental Heavy Metal Intoxication &amp; Chelators</b></p> <p><b>Management of the</b></p>	smart board	Theoretical examination

<b>83. Course Evaluation</b>					
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30% mid exam 70% final exam					
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<b>84. Learning and Teaching Resources</b>					
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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

85.	Course Name:	<b>Research Methodology</b>		
86.	Course Code:			
87.	Semester / Year:	2 <sup>nd</sup> semster / postgraduate		
88.	Description Preparation Date:	4-4-2025		
89.	Available Attendance Forms:	theoretical		
90.	Number of Credit Hours (Total) / Number of Units (Total)	45		
91.	Course administrator's name (mention all, if more than one name)	Name: ا.د حيدر بهاء صاحب  Email: <a href="mailto:dr.hayder.bahaa@nahrainuniv.edu.iq">dr.hayder.bahaa@nahrainuniv.edu.iq</a>		
92.	Course Objectives	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"><b>Course Objectives</b></td> <td>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....</td> </tr> </table>	<b>Course Objectives</b>	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....
<b>Course Objectives</b>	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....			
93.	Teaching and Learning Strategies	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>Strategy</b></td> <td><u>Cognitive goals</u> A1. How</td> </tr> </table>	<b>Strategy</b>	<u>Cognitive goals</u> A1. How
<b>Strategy</b>	<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  
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

94. Course Structure

We ek	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
		.1. Understanding the Research Process: Learners should grasp the steps involved in conducting research, from problem identification to reporting findings	<b>Process conducting scientific research</b>	smart board	Theoretical examination
			<b>Ethical issues conducting research</b>	smart board	Theoretical examination
			<b>How to publish manuscript?</b>	smart board	Theoretical examination
			<b>Literature review management</b>	smart board	Theoretical examination
		2. Knowledge of Research Designs: Understand different research designs (qualitative, quantitative, and mixed methods)	<b>Advanced collection: observation</b>	smart board	Theoretical examination
			<b>foundation research methodology</b>	smart board	Theoretical examination
			<b>Preparing research proposal</b>	smart board	Theoretical examination
			<b>Writing research</b>	smart board	Theoretical examination

		and their appropriate use	<b>methodology</b>		
		3. Literature Review Skills	<b>Questionnaire</b>	smart board	Theoretical examination
		Develop the ability to conduct	<b>Findings discussion</b>	smart board	Theoretical examination
		comprehensive literature review and critically	<b>Introduction statistics</b>	smart board	Theoretical examination
		assess existing research.	<b>Introduction Matlab</b>	smart board	Theoretical examination
		4. Data Collection and Sampling: Learn various data collection techniques (e.g., surveys, interviews) and sampling methods to ensure representative and reliable results.			
		5. Data Analysis and Interpretation: Acquire skills to analyze data using statistical or qualitative methods, and interpret results accurately.			
		6. Ethical Considerations: Understand the ethical principles in research, including consent, privacy,			

		<p>and research integrity.</p> <p><b>7. Writing and Reporting Research:</b> Learn how to write structured research papers and reports, presenting methodology results, and conclusions effectively.</p> <p><b>8. Critical Thinking:</b> Develop the ability to critically evaluate research design methods, and findings, and adapt approaches as needed.</p> <p><b>9. Use of Tools and Software:</b> Become familiar with tools for data analysis (e.g., SPSS, NVivo) and how to apply them in research.</p> <p><b>10. Communication of Findings:</b> Learn how to present research findings clearly to various</p>			
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		<p>audiences, both academic and non-academic.</p> <p>These outcomes ensure that learners can independently design, execute and evaluate research with strong understanding both theory and practice.</p>			
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**95. Course Evaluation**

30% mid exam 70% final exam

**96. Learning and Teaching Resources**

Required textbooks (curriculum books, if any)	
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:
	<b>General toxicology</b>
98.	Course Code:
99.	Semester / Year:
	2 <sup>nd</sup> semster / 4 <sup>th</sup> year
100.	Description Preparation Date:
	4-4-2025
101.	Available Attendance Forms:
	practical
102.	Number of Credit Hours (Total) / Number of Units (Total)
103.	Course administrator's name (mention all, if more than one name)
	Name: أ.م.د. محمد فرید م.م. رغد رحيم عبد Email: <a href="mailto:raghad.raheem@nahrainuniv.edu.iq">raghad.raheem@nahrainuniv.edu.iq</a>

## 104. Course Objectives

<b>Course Objectives</b>	To introduce pharmacy students to the basis of fundamental toxicological principles, identify and classify common toxic agents, prepare students for clinical and forensic application of toxicology in pharmacy practice. develop skills in experimental design. study the mechanism of toxicity of various chemical agents, classify common toxic agents.
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## 105. Teaching and Learning Strategies

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

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		General Introduction to Toxicology I	Practical experiment	Practical exam
2	2		General Introduction to Toxicology II	Practical experiment	Practical exam
3	2		Acute Toxicity Study, determination of	Practical experiment	Practical exam

			LD50		
4	2		Nicotine Toxicity	Practical experiment	Practical exam
5	2		CCL4 and Liver Toxicity	Practical experiment	Practical exam
6	2		Pesticide Toxicity	Practical experiment	Practical exam
7	2		Metal Toxicity	Practical experiment	Practical exam
8	2		Blood Toxicity	Practical experiment	Practical exam
9	2		Alcohol Toxicity	Practical experiment	Practical exam
10	2		Strychnine Toxicity	Practical experiment	Practical exam
11	2		Drug induced Toxicity	Practical experiment	Practical exam

#### 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 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

