

**Ministry of Higher Education and Scientific Research**  
**Scientific supervision and evaluation device**  
**Department of Quality Assurance and Academic Accreditation**  
**Accreditation Department**



**Academic program  
and course  
description**

## Description of the academic program

University name: Northern Technical University

College/Institute: Technical Institute/Al-Dur

Scientific Department: Department of Pharmaceutical Technology

Name of the academic or professional program: Pharmacy Technician

Name of final degree: Technical Diploma in Pharmacy

Academic system: courses

Description preparation date: 27 / 1 /2025

Date of filling the file: 27 / 1 /2025

the signature : 

Name of scientific assistant: Assist.  
Prof. Dr. Hanan Shehab Ahmed

the signature : 

Name of department head: Assist.  
Prof. Dr. Ansam Hussein Ali

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Quality Assurance and University Performance Division

Name of the director of the Quality Assurance and University Performance

Division: – Assist. Lec. Hayder Ali Mohssn

Signature:- 



Assist. Prof. Dr. Maha Elttayef Jasim  
Dean's endorsement

## 1. Program vision

Striving to secure and implement educational, pedagogical and humanitarian programs in order to raise skills and build the capabilities of educational outcomes in pharmaceutical education, training and scientific research to develop pharmaceutical services provided to beneficiaries.

## ٢. Program message

Preparing administrative technical cadres to provide the best pharmaceutical services to the community through the quality of graduates of this specialty and ensuring professional and humane dealing

## 1. Program objectives

Preparing qualified technical cadres to work in the field of clinical and pharmaceutical pharmacy under the supervision of a pharmacist and in the field of pharmaceutical and chemical industries under the supervision of a pharmacist or chemist. Preparing technical staff capable of linking theoretical material with practical skills.

## Programmatic accreditation

Not found

## Other external influences

There is a relationship between the medical department and the health sector through training and follow-up

## Program structure

Program Structure	Number of Courses	Study Unit	Percentage	Notes *
<b>University requirements</b>	9	18	10,7	<b>Basic course</b>
<b>Institute requirements</b>	5	14	12,2	<b>Basic course</b>
<b>Department requirements</b>	20	82	71,9	<b>Basic course</b>
<b>summer training</b>	-	-	-	<b>Interpolation</b>

\*Notes may include whether the course is core or elective.

<b>Program description</b>				
Year/level	Course code	Course name	Credit hours	
2024 / 2023 – First level	NTU 100	Human Rights and Democracy	0	2
2024 / 2023 – First level	NTU 101	English language	0	2
2024 / 2023 – First level	NTU 102	Computer Principles	1	1
2024 / 2023 – First level	NTU 104	Arabic Language	0	2
2024 / 2023 – First level	NTU 105	Sport( optional )	1	1
2024 / 2023 – First level	NTU 107	French Language ( optional )	0	2
2024 / 2023 – First level	TID 106	Medical Physiology	2	2
2024 / 2023 – First level	TID 108	Safety in Lab & workshop	0	2
2024 / 2023 – First level	TID 109	Medical terminology	0	2
2024 / 2023 – First level	TID 110	Anatomy	2	2
2024 / 2023 – First level	PHT 112	Principles Pharmacy	2	2
2024 / 2023 – First level	PHT 113	Basics Of Organic Chemistry	2	2

2024 / 2023 – First level	PHT 114	Analytical Chemistry	2	2
2024 / 2023 – First level	PHT 115	Pharmaceuticals Calculation	2	2
2024 / 2023 – First level	PHT 116	Organic Chemistry	2	2
2024 / 2023 – First level	PHT 120	Microbiology	2	2
2024 / 2023 – First level	PHT 117	Biochemistry	2	2
2024 / 2023 – First level	PHT 118	First Aids( optional )	0	1
2024 / 2023 – First level	PHT 119	psychology( optional )	0	1
2024 / 2023 – Second level	NTU 203	The crimes of the Baath regime in Iraq	0	2
2024 / 2023 – Second level	NTU 202	Arabic	0	2
2024 / 2023 – Second level	NTU 201	Professional Ethics	0	2
2024 / 2023 – Second level	TID 204	Statistics	0	2
2024 / 2023 – Second level	PHT 203	Pharmaceutics	2	2
2024 / 2023 – Second level	PHT 204	Industrial Principles	2	2
2024 / 2023 – Second level	PHT 205	Principles of Pharmaceutical chemistry	2	2
2024 / 2023 – Second level	PHT 206	Principles of Drugs	2	2
2024 / 2023 – Second level	PHT 207	Medicinal plants and Natural Products	2	1
2024 / 2023 – Second level	PHT 208	Basics of Therapeutics Application	2	1
2024 / 2023 – Second level	PHT 209	Toxicology	0	2
2024 / 2023 – Second level	PHT 211	Pharmaceutical Formulation	2	2
2024 / 2023 – Second level	PHT 212	Industrial Pharmacy	2	2
2024 / 2023 – Second level	PHT 213	Pharmaceutical chemistry	2	2
2024 / 2023 – Second level	PHT 214	Pharmacology	2	2
2024 / 2023 – Second level	PHT 215	Proposal	2	0

2024 / 2023 – Second level	PHT 216	Therapeutics Application	2	1
2024 / 2023 – Second level	PHT 210	Pharmacognacy	2	1
2024 / 2023 – Second level	PHT 217	Community Health	0	1
2024 / 2023 – Second level	PHT 218	Commucation Skills	0	1

<b>2.Expected learning outcomes of the program</b>	
<b>Knowledge</b>	
<b>1</b>	The student’s ability to apply knowledge in the medical fields in general and the field of pharmacy in particular
<b>2</b>	The student’s knowledge of the professional and ethical principles and responsibilities of the field of specialization
<b>3</b>	Knowing the pharmacological effect of different types of drugs and studying their effect and effectiveness within the body.
<b>4</b>	Enabling the student to assist the doctor in diagnostic and therapeutic procedures during the implementation of health programs.
<b>Skills</b>	
١	Preparing students to work and integrate into multi-disciplinary teams.
٢	Enabling the student to acquire skills in methods of compounding and preparing medicines.
٣	Preparing students to use modern technologies, skills, and specialized tools in the field of pharmacy.
٤	Skill in maintaining and operating pharmaceutical equipment.
<b>Value</b>	
١	The student’s interest in communicating effectively with those concerned with the field of specialization.
٢	Developing the student’s ability to benefit from available means.
٣	Developing the student’s ability to perform daily duties.
٤	Love of knowledge and benefiting from knowledge.

<b>9 . Teaching and learning strategies</b>
<b>(Theoretical lectures / discussion and dialogue / practical lectures / field )</b>

**visits / discussion circles / laboratories / office activities / solving examples /  
(graduation project / summer training)**

### **10 . Evaluation methods**

**(Oral exams / written exams / weekly reports / daily attendance / semester )  
(and final exams)**

### **11 . The teaching staff**

#### **The teaching staff**

<b>Academic rank</b>	<b>specialization</b>		<b>special requirements/skills (if any)</b>		<b>preparation of the teaching staff</b>	
	<b>General</b>	<b>private</b>			<b>staff</b>	<b>lecturer</b>
<b>Assis. Prof.</b>	<b>Chemistry</b>	<b>Clinical chemistry</b>			<b>staff</b>	
<b>Assis. Prof.</b>	<b>Biology</b>	<b>physiology</b>			<b>staff</b>	
<b>Teacher</b>	<b>Chemistry</b>	<b>biochemistry</b>			<b>staff</b>	
<b>Teacher</b>	<b>Biology</b>	<b>Microbiology</b>			<b>staff</b>	
<b>Assist. teacher</b>	<b>Chemistry</b>	<b>Analytical chemistry</b>			<b>staff</b>	

#### **Professional development**

**Orienting new faculty members**

**Involving students in discussions, scientific seminars and training courses**

#### **Professional development for faculty members**

**Conducting field visits to the public and private sectors and universities within the specialty to review the field development in the field of specialization**

## 12. Acceptance criterion

**The admission criteria for the morning study are considered within the central admission plan, which is approved by the Ministry of Higher Education and Scientific Research, or the admission criteria for the evening study are identical to the actual admission plan for the morning study.**

## 13. The most important sources of information about the program

Programs and resources are approved by the sectoral committees at the university and are periodically updated through the annual meetings of the relevant committees.

## 14. Program development plan

Using new concepts in the field of pharmacy and using electronic devices to display information

Level	Code of the course	name or course	basic or optional	Cognitive objectives				The program's skill objectives				Affective goals and value				Transferred general and qualification skills (other skills related to employability and personal development)			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
First level	NTU 100	Human Rights and Democracy	Basic	X	X	X	X	X	X	X		X	X	X		X	X		
	NTU 101	English language	Basic	X	X			X	X			X	X	X		X	X		
	NTU 102	Computer Principles	Basic	X	X	X		X	X			X	X	X		X	X		
	NTU 104	Arabic Language	Basic	X	X			X	X			X	X	X		X	X		
	NTU 105	Sport	Basic	X	X	X		X	X	X	X	X	X	X		X	X		
	TID 106	Medical Physiology	Basic	X	X	X	X	X	X			X	X	X		X	X		
	TID 108	Safety in Lab & workshop	Basic	X	X	X		X	X	X		X	X	X		X	X		
	TID 109	Medical terminology	Basic	X				X	X			X	X	X		X	X		

	TID 110	Anatomy	Basic	X	X	X		X				X	X	X		X	X		
	PHT 112	Principles Pharmacy	Basic	X	X			X	X			X	X	X		X	X		
	PHT 113	Basics Of Organic Chemistry	Basic	X	X			X	X			X	X	X		X	X		
	PHT 114	Analytical Chemistry	Basic	X	X			X	X			X	X	X		X	X		
	PHT 115	Pharmaceuticals Calculation	Basic	X	X			X	X			X	X	X		X	X		
	PHT 116	Organic Chemistry	Basic	X	X	X		X	X			X	X	X		X	X		
	PHT 120	Microbiology	Basic	X	X			X	X			X	X	X		X	X		
	PHT 117	Biochemistry	Basic	X	X			X	X			X	X	X		X	X		
	PHT 118	First Aids	optional	X	X			X	X			X	X	X		X	X		
<b>Second level</b>	NTU 203	The crimes of the Baath regime in Iraq	Basic	X	X	X		X	X			X	X	X		X	X		
	NTU 202	Arabic	Basic	X	X	X		X				X	X	X		X	X		
	NTU 201	Professional Ethics	Basic	X	X	X		X	X			X	X	X		X	X		
	<b>TID 204</b>	Statistics	Basic	X	X	X	X	X	X			X	X	X		X	X		
	PHT 203	Pharmaceutics	Basic	X	X	X	X	X				X	X	X		X	X		
	PHT 204	Industrial Principles	Basic	X	X	X		X				X	X	X		X	X		
	PHT 205	Principles of Pharmaceutical chemistry	Basic	X	X		X	X				X	X	X		X	X		
	PHT 206	Principles of Drugs	Basic	X	X		X	X				X	X	X		X	X		

PHT 207	Medicinal plants and Nutural Products	<b>Basic</b>	X	X		X	X				X	X	X		X	X		
PHT 208	Basics of Therapeutics Application	<b>Basic</b>	X	X		X	X				X	X	X		X	X		
PHT 209	Toxicology	<b>Basic</b>	X	X	X	X					X	X	X		X	X		
PHT 211	Pharmaceutical Formulation	<b>Basic</b>	X	X		X	X				X	X	X		X	X		
PHT 212	Industrial Pharmacy	<b>Basic</b>	X	X		X	X				X	X	X		X	X		
PHT 213	Pharmaceutical chemistry	<b>Basic</b>	X	X		X	X				X	X	X		X	X		
PHT 214	Pharmacology	<b>Basic</b>	X	X		X	X				X	X	X		X	X		
PHT 210	Proposal	<b>Basic</b>	X	X		X	X				X	X	X		X	X		
PHT 215	Therapeutics Application	<b>Basic</b>	X	X	X	X					X	X	X		X	X		
PHT 216	Pharmacognacy	<b>Basic</b>	X			X					X	X	X		X	X		
PHT 217	Community Health	<b>optiona l</b>	X			X					X	X	X		X	X		

## Course description

1. Name of the course:	
Principles of pharmacy	
2. Course code	
PHT 112	
3. Semester/level:	
First semester/first level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30 practical hours + 30 theoretical hours / number of units 4	
8. Objectives of the course	
Objectives of the academic subject	<p>It includes brief information about the old pharmacy.            Teaches types of numbers            Abbreviations commonly used in medical prescriptions and their meanings. In this course students will understand the components of a typical recipe, the different unit systems, and the relationship between These systems. Students will also be familiar with methods and tools for measuring weights and volumes, and how to calculate doses based on Different and know how Reduce or enlarge formulas and descriptions</p>
9. Teaching and learning strategies:	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy				
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy				
10. Course structure:					
week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outcomes 1- How to deal with		Reports, Assignments,	Blackboard PowerPoint

		scientific equipment 2- Learning using technology Different scientific intentions 3. Understanding prescription components and units of measurement	Some fundamentals of measurements and calculations	oral and written theory exams	slides E-learning Conduct experiments laboratory
2	2	For pharmaceutical systems. 5-The ability to write and draft reports Pharmaceutical laboratory about the results of scientific examinations and tests	Some fundamentals of measurements and calculations (cont.)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	The ability to derive results and their effects from Testing  Acquiring skills -Preparing designs	Interpretation of prescription or medication orders	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2	Modern to install The medicine and how to prepare it -Analysis of results		Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2	Pharmaceutical tests and their discussion and using it in the design processes And evaluate the prepared medicine -Acquiring the skill in writing scientific reports	Interpretation of prescription or medication orders(cont)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2	Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract	The metric system	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2	Ideas - implanting values Ethical principles of correct dealing with patients  Transferable general and qualification skills (other	The metric system(cont.)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2	skills related to employability and To develop (Personal.)	Calculation of doses	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments

					laboratory
9	2		Calculation of doses	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		Reducing and enlarging	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
11	2		Reducing and enlarging	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
12	2		Density, specific gravity and specific volume(cont)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
13	2		Percentage and ratio strength calculation	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
14	2		Percentage and ratio strength calculation (cont)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
15	2		Percentage and ratio strength calculation (cont)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

## 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today  
And daily, oral and monthly exams  
editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

## 12 . Learning and teaching resources

Required prescribed books (methodology) found)	<b>Pharmaceutical Calculation by Stoklosa</b>
Main references (sources)	<b>Pharmaceutical Calculations 13th Edition Howard C. Ansel, PhD</b>
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	<b>USP</b>

## Course description

1. Name of the course:	
Analytical Chemistry	
2. Course code	
PHT 114	
3. Semester/level:	
First semester/first level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30 practical hours + 30 theoretical hours / number of units 4	
8. Objectives of the course	
Objectives of the academic subject	<p>It is to provide students with a sound theoretical background in the chemical principles that are considered</p> <p>Necessary for practicing chemical analysis. It enables students to understand the importance of judging the accuracy and precision of experimental data and techniques. quantitative analysis, as well as showing that Theory often serves as a useful guide to solving analytical problems</p>
<b>9. Teaching and learning strategies:</b>	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy				
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy				
10. Course structure:					
week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outcomes 1- How to deal with scientific equipment 2- Learning using technology Different	Review of elementary concept important to analytical chemistry:	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct

		scientific intentions 3-Analysis of the results of analysis tests Pharmaceuticals and its discussion and using it in the design processes For the drug and its composition. 5-The	Strong and weak electrolytes; important weight and concentration units. Demonstration of some laboratory equipment's.		experiments laboratory
2	2	ability to write and draft reports Pharmaceutical laboratory about the results of scientific examinations and tests The ability to derive results and their effects from Testing	<ul style="list-style-type: none"> <li>The evaluation of analytical data</li> </ul> Definition of terms. Separation and identification of group 1 cations (individual test).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	Acquiring skills -Preparing designs Modern to install	factor. Analysis of group 1 cations mixture.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2		<ul style="list-style-type: none"> <li>The scope of applications of gravimetric analysis: Inorganic precipitating agents; organic precipitating agents.</li> </ul> Preparation and standardization of an acid.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2	Pharmaceutical tests and their discussion and using it in the design processes And evaluate the prepared medicine -Acquiring the skill in writing scientific reports	<ul style="list-style-type: none"> <li>An introduction to volumetric methods of analysis</li> </ul> Determination of the percentage of acetic acid.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2	Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract	<ul style="list-style-type: none"> <li>Volumetric calculations; acid-base equilibria.</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments

		Ideas - implanting values Ethical principles of correct dealing with patients	Analysis of sodium carbonate		laboratory
7	2	Transferable general and qualification skills (other skills related to employability and To develop (Personal.)	<ul style="list-style-type: none"> <li>pH calculations.</li> </ul> Analysis of sodium hydroxide mixture	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
8	2		<ul style="list-style-type: none"> <li>Buffer solutions: Theory of neutralization titrations of simple system.</li> </ul> Determination of chloride by the Mohr method.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
9	2		<ul style="list-style-type: none"> <li>Theory of neutralization titrations of complex system</li> <li>Determination of chloride by the Volhard method.</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
10	2		Reducing and enlarging	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory

## 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today  
And daily, oral and monthly exams  
editorial, reports, etc.

- The semester exam is 40 marks.

- Final exam: 60 marks

## 12 . Learning and teaching resources

Required prescribed books (methodology) found)	Fundamentals of Analytical Chemistry by Stook and West Hand book for practical organic chemistry
Main references (sources)	Modern of Analytical Chemistry
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	

## Course description

1. Course Name					
computer					
2. Course Code					
NTU 200					
3. Semester / Level					
Second/second					
4. Description of preparation date					
٢٠٢٤/٣/٧					
5. Available attendance formats					
weekly attendance					
6. Number of Credit Hours (Total) / Number of Units (Total)					
15 theoretical / 15 Practical					
7. Course Objectives					
<b>Course Objectives</b>		<ul style="list-style-type: none"> <li>• Familiarize the student with various computer applications and be able to distinguish between the types of software that can be handled, and identify artificial intelligence and the prospects of dealing with it and how to benefit from it in all areas of life.</li> </ul>			
8. Teaching and Learning Strategies					
<ul style="list-style-type: none"> <li>• Adequate explanation of the course                             <ul style="list-style-type: none"> <li>• Daily Tests</li> <li>• Student groups</li> </ul> </li> </ul>					
9. Course Structure					
Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	\	Introduction to artificial intelligence	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Second	\	History of artificial intelligence	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Third	\	Artificial intelligence techniques and methods	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Fourth	\	Challenges and ethical considerations in artificial intelligence	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Fifth	\	Artificial intelligence in smartphones and virtual assistants such as siri / Google assistant	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Sixth	\	Applications of artificial intelligence in education, health,	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>

		finance, transport and marketing			
Seventh	\	The impact of artificial intelligence on society	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Eighth	\	Artificial intelligence and international relations	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Ninth	\	Artificial intelligence and the future of humanity.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Tenth	\	Ethics of artificial intelligence	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Eleventh	\	Artificial intelligence, privacy and surveillance	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Twelfth	1	Future directions in artificial intelligence	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Thirteenth	\	Modern research and emerging technologies in the field of artificial intelligence	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Fourteenth	\	Future outlook	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
Fifteenth	\	The role of intelligence in smartphones	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	<b>Exams</b>
<b>10. Course Evaluation</b>					
Daily, monthly, and final exams as well as weekly reports					
<b>11. Learning and Teaching Resources</b>					
Textbooks					
Main references					
Scientific resources within the Internet					

## Course description

1. Name of the course:	
Statistics	
2. Course code	
TID 202	
3. Semester/level:	
First semester/Second level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30 theoretical hours / number of units 2	
8. Objectives of the course	
Objectives of the academic subject	<ul style="list-style-type: none"> <li>١- The main goal is to give students the ability to deal with the concept To count,</li> <li>2-Emphasizing the knowledge and skill required to perform duties and responsibilities. pharmacist efficiently.</li> <li>3- Applying the concept of biostatistics applications in Medical field</li> <li>٤- Upon completion of the course, students will be able to understand statistics applications. This includes the medical field.</li> </ul>
<b>9. Teaching and learning strategies:</b>	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy				
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy				
10. Course structure:					
week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outputs  Life statistics Statistical concepts The concept of	Statistical theory and its applications	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct

		probability Arithmetic and counting techniques			experiments laboratory
2	2	Poisson distribution Probability distribution The concept of measuring the focused tendency The derivative	Probability properties; Set theory and group notation (basic notation)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	The derivative of trigonometric functions Integration	Counting techniques	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2			Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2	Pharmaceutical tests and their discussion and using it in the design processes And evaluate the prepared medicine -Acquiring the skill in writing scientific reports	- permutations and combinations; Calculate the probability of events	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2	Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract Ideas - implanting values Ethical principles of correct dealing with patients	The probability distribution of the variable separate; Binomial distribution, Poisson distribution	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2	Transferable general and qualification skills (other skills related to employability and To develop (Personal.)	For a continuous probability distribution and natural distribution Sample mean	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		Differentiation rules, the tangent line to the curve, and applications	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

9	2		The derivative of trigonometric functions, their applications, and exercises	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		The average population size; The median; put Measure of central tendency; Review questions and exercises	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

### 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 30 marks.
- Final exam: 70 marks

### 12 . Learning and teaching resources

Required prescribed books (methodology) found)	Introduction Statistics – seven edition-by Prem S. Mann- Calculus-11 edition by Thomas-2005- Biostatistics (A Foundation for Analysis in the Health - Nine edition- by Wayne W. Daniel-2005 sciences)
Main references (sources)	Calculus-11 edition by Thomas-2005 Biostatistics (A Foundation for Analysis in the Nine edition- by Wayne W. Health sciences) Daniel-2005
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	

## Course description

1. Name of the course:	
Medical terminology	
2. Course code	
TID 109	
3. Semester/level:	
First semester/First level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30 theoretical hours / number of units 2	
8. Objectives of the course	
Objectives of the academic subject	In this course, students learn to pronounce medical and pharmaceutical terms used in health care settings. The student will be able to use a word building strategy that helps them discover connections and relationships between word roots, prefixes, and suffixes.
<b>9. Teaching and learning strategies:</b>	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy				
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy				
10. Course structure:					
week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outputs  1. Information about roots Words:  2. Additional details about word roots,	Basic word roots	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2			Reports,	Blackboard

		<p>suffixes and prefixes related to science. Pharmaceuticals (natural medicine, pharmacy) clinical, pharmacology, (etc.)</p>	<p>Word roots, suffixes and prefixes</p>	<p>Assignments, oral and written theory exams</p>	<p>PowerPoint slides E-learning Conduct experiments laboratory</p>
3	2	<p>3. Description of the important medical term for the condition: Natural.</p>	<p>Basic anatomical terms and abnormal conditions</p>	<p>Reports, Assignments, oral and written theory exams</p>	<p>Blackboard PowerPoint slides E-learning Conduct experiments laboratory</p>
4	2	<p>4. Describe the important medical term for the two renal systems. And reproductive.</p>	<p>The genitals and urinary tract</p>	<p>Reports, Assignments, oral and written theory exams</p>	<p>Blackboard PowerPoint slides E-learning Conduct experiments laboratory</p>
5	2	<p>5. Description of the medical term Important for the digestive system.</p>	<p>The gastrointestinal tract</p>	<p>Reports, Assignments, oral and written theory exams</p>	<p>Blackboard PowerPoint slides E-learning Conduct experiments laboratory</p>
6	2	<p>6. Description of the important medical term used in Cardiovascular system.</p>	<p>The heart and cardiovascular system</p>	<p>Reports, Assignments, oral and written theory exams</p>	<p>Blackboard PowerPoint slides E-learning Conduct experiments laboratory</p>
7	2	<p>7. Description of the important medical term in the field of disease. And treatment.</p>	<p>Symptoms, diagnoses, treatments, communication qualifiers, and statistics.</p>	<p>Reports, Assignments, oral and written theory exams</p>	<p>Blackboard PowerPoint slides E-learning Conduct experiments laboratory</p>
8	2	<p>8. Description of the important medical term in gynecology. Pregnancy and childbirth.</p>	<p>Growth and development</p>	<p>Reports, Assignments, oral and written theory exams</p>	<p>Blackboard PowerPoint slides E-learning Conduct experiments laboratory</p>
9	2	<p>9. Description of the important medical term for eye conditions. And dissect it. Pharmaceutical tests and their discussion and using it in the design processes And evaluate the prepared medicine -Acquiring the skill in writing scientific reports</p>	<p>Gynecology</p>	<p>Reports, Assignments, oral and written theory exams</p>	<p>Blackboard PowerPoint slides E-learning Conduct experiments laboratory</p>

10	2	<p>Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract Ideas - implanting values Ethical principles of correct dealing with patients</p> <p>Transferable general and qualification skills (other skills related to employability and To develop (Personal.)</p>	The eye	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
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### 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 30 marks.
- Final exam: 70 marks

### 12 . Learning and teaching resources

Required prescribed books (methodology) found)	Edward CC, (Ed.); A Short course in Medical Terminology; Latest edition; Lipincott Williams and Wilkins.
Main references (sources)	Text book
Recommended supporting books and references (scientific journals, reports,	<ul style="list-style-type: none"> <li>• Barbara A. Gylys, Regina M. Masters. Medical terminology simplified : a programmed learning approach by body systems; Latest edition.</li> <li>• Barbara Janson Cohen, Ann DePetris. Medical terminology : an illustrated guide; Latest edition</li> <li>• Pharmacy times (journal)</li> <li>Us pharmacist (journal)</li> </ul>
Electronic references, Internet sites	<ul style="list-style-type: none"> <li>• المكتبة الالكترونية لوزارة التعليم العالي</li> <li>• Pub med.gov &amp; NCBI</li> <li>• الموسوعة UpToDate الالكترونية</li> </ul>

## Course description

1. Name of the course:	
Anatomy	
2. Course code	
TID 110	
3. Semester/level:	
First semester/First level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
٦. Number of academic hours (total) / number of units (total):	
٣٠ practical hours + 30 theoretical hours / number of units 4	
8. Objectives of the course	
Objectives of the academic subject	<p>By the end of this chapter, students are expected to learn: 1- Study the position of different organs in the cavity. Thoracic and abdominal, including: the digestive system, the circulatory system, the lymphatic system, the respiratory system, and the urinary system The reproductive system, the endocrine system, the Nerve and skin</p> <p>2- General types of tissues (epithelial, connective, muscle, nervous, fatty, cartilage, blood) and Learn about the structure of each tissue, where it is found, naming and distinguishing elements, and describe the molecular structure. And its function in a way Short. 3- Definition of (cartilage and bone) tissues and description of their infrastructure and cellular structure outside of them. Description of the tissues Ossification Describe the growth of bone tissue, explain its function, and describe and mention the bones of the axial structure (inside the skull and (vertebral column and chest) and limb bones, the basic criteria for each bone, and the distinction between types of joints and their function.</p>
9. Teaching and learning strategies:	

Education strategies	<p>Graduates must be able to:</p> <p>1-Distinguish between the types of general tissues (epithelial, connective, muscular, Nervous, cartilage, cartilage, blood) 2 - Examination of a tissue slice at magnifications of Difference - drawing illustrative diagrams of tissue types General tissues. 3-The graduate must have the ability to: - Prepare a scientific report. . - Participation in Scientific discussion</p> <p>4- The pharmacy student will be able to understand the human body early in his studies in institute, Therefore, he will be able to understand the scientific content of other courses.</p>
Learning strategies	

10. Course structure:					
week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outputs  The student should be able to know the causes and symptoms And diagnose diseases different	(cell of Installation(review Cell	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	- Determine the appropriate medication For every medical condition	Introduction in general anatomy includes: kinds of anatomy, Anatomical description, Anatomical terms	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	- Knowing everything related to the effects of therapeutic and offending drugs and contraindications for their use.	,Basic Structures	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2	- How to treat the patient Educating him about his health	Skeleton bones and joints	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2	Acquiring skills - How to work and meet Seminars and qualitative lectures	Epithelial tissue&	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		Circulatory system: Location of vascular	Reports,	Blackboard

		- Education skill Medication for patients	system (Heart, Arteries, Veins)	Assignments, oral and written theory exams	PowerPoint slides E-learning Conduct experiments laboratory
7	2	- Extraction skill Required information From its sources approved  Emotional outputs And value - thinking skills through translation and analysis Evaluate and extract Ideas	Glandular Epithelium & Endocrine system: - location of the pituitary gland - location of the Adrenal, Thyroid, Parathyroid, Islet of Langerhans & Pineal glands	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2	- Implanting moral values To deal correctly with Patients	Digestive system: - location of different parts of digestive tract (GIT) (Oral cavity, Mouth, Esophagus & Stomach) -Small intestine, Large intestine, Rectum & Anus.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2	Transferable general and qualification skills (other skills related to employability and personal development.	Digestive system: Glands associated with the digestive tract by location (Salivary glands, Pancreas, Liver & Gall bladder).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		Respiratory system: - Conducting portion (Nose, Nasopharynx, Trachea Bronchus & Bronchioles). - Respiratory portion (lung) Nervous system: Central & Peripheral nervous system by location	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

## 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

## 12 . Learning and teaching resources

Required prescribed books (methodology) found)	Lipincott Williams & Wilkins
Main references (sources)	- Clinical Anatomy by Regions (Richard S. Snell 8th ed. 2010).
Recommended supporting books and references (scientific journals, reports,	-Simon McGurkJunqueira ,L (2005) Basic Histology Text and Atlas – 11th edition -Stevens A & Lowe, JS (1991). Histology. Gower Medical Publishing -Young, B & Heath, JW (2006). Wheater's Functional Histology — a Text and Colour Atlas 5th edn. London: Churchill Livingstone.
Electronic references, Internet sites	FDA

## Course description

1. Name of the course:	
Pharmaceuticals Calculation	
2. Course code	
PHT 115	
3. Semester/level:	
Second semester/First level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30 practical hours + 30 theoretical hours / number of units 4	
8. Objectives of the course	
Objectives of the academic subject	<p>Accounts include pharmaceutical materials, preparations, compositions and prescriptions.</p> <ul style="list-style-type: none"> <li>- Knowledge of the biological factors of pharmaceutical materials.</li> <li>- Teaching pharmaceutical calculations for dilution and concentration of saline liquid solutions.</li> </ul> <p>Electrolytes and intravenous solutions.</p>
<b>9. Teaching and learning strategies:</b>	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy				
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy				
10. Course structure:					
week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outputs 1- How to prepare various forms Pharmaceutical. 2-Learning using different scientific techniques	<ul style="list-style-type: none"> <li>• Dilution pharmaceutical preparation</li> <li>• Demonstration of different</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

		3-Knowing the various benefits and harms of each pharmaceutical form .	<p>glasses and equipment's used in the field of pharmacy.</p>		
2	2	4-The ability to write and draft reports Pharmaceutical laboratory about the results of scientific examinations and tests The ability to derive results and their effects from Testing	<ul style="list-style-type: none"> <li>Dilution of pharmaceutical preparation.</li> </ul> Pharmaceutical measurements	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	Acquiring skills -Preparing designs Modern to install The medicine and how to prepare it	<ul style="list-style-type: none"> <li>Dilution of pharmaceutical preparation. (cont)</li> </ul> Pharmaceutical measurements	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2	Pharmaceutical tests and their discussion and using it in the design processes And evaluate the prepared medicine -Acquiring the skill in writing scientific reports	<ul style="list-style-type: none"> <li>Concentration of pharmaceutical Preparations</li> </ul> Volume measurements	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2	Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract	<ul style="list-style-type: none"> <li>Isotonic solutions Preparation of aromatic waters</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2	Ideas - implanting values Ethical principles of correct dealing with patients  Transferable general and qualification skills (other skills related to employability and To develop (Personal.)	<ul style="list-style-type: none"> <li>Isotonic solutions Preparation of simple solutions</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		<ul style="list-style-type: none"> <li>Isotonic solutions(cont) Preparation of simple solutions(cont)</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

8	2		<ul style="list-style-type: none"> <li>Electrolyte solutions</li> </ul> Reducing and enlarging prescription contents	Reports, Assignments, oral and written theory exams Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2			Reports, Assignments, oral and written theory exams Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2			Reports, Assignments, oral and written theory exams Blackboard PowerPoint slides E-learning Conduct experiments laboratory

### 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

### 12. Learning and teaching resources

Required prescribed books (methodology) found)	Pharmaceutical Dosage forms and Drug Delivery Systems By
Main references (sources)	Haward A. Ansel; latest edition.
Recommended supporting books and references (scientific journals, reports,	Pharmaceutical Calculations by Stoklosa
Electronic references, Internet sites	FDA

## Course description

1. Name of the course:	
Organic Chemistry	
2. Course code	
PHT 116	
3. Semester/level:	
Second semester/First level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30 practical hours + 30 theoretical hours / number of units 4	
8. Objectives of the course	
Objectives of the academic subject	<p>Enabling students to understand the chemistry of carbon, and the classification, properties and reactions of the center Membership is now available. It includes understanding the basic structure and properties of alkanes, alkenes and alkyne, as well as Introduction to the principles of stereochemistry and the properties of aromatic compounds. Study of classification, properties and properties of aromatic compounds. Preparation and interactions</p> <p>Alkanes, alkenes, alkynes, and the study of stereochemistry.</p>
<b>9. Teaching and learning strategies:</b>	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy				
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy				
10. Course structure:					
week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method

1	2	Cognitive outputs 1- How to deal with Scientific instruments 2 - Learning using different scientific techniques 3- Analyzing the results of pharmaceutical analysis tests, discussing them, and using them in In the design processes For the drug and its composition. 5- The ability to write and draft pharmaceutical laboratory reports on the results of tests, etc. Scientific tests and the ability to deduce results and their effects from Testing	<ul style="list-style-type: none"> <li>• Introduction. Determination of melting point (Known sample).</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	Acquiring skills - Preparing modern designs for drug composition and the method of preparing it - Analyzing the results of pharmaceutical tests, discussing them, and seeking help Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract Ideas - implanting values Ethical principles of correct dealing with patients	<ul style="list-style-type: none"> <li>• Dilution of pharmaceutical preparation. Pharmaceutical measurements</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	Transferable general and qualification skills (other skills related to	<ul style="list-style-type: none"> <li>• Dilution of pharmaceutical preparation. (cont) Pharmaceutical measurements</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2	Transferable general and qualification skills (other skills related to	<ul style="list-style-type: none"> <li>• Alkanes Determination of melting point (quiz and unknown).</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2	Transferable general and qualification skills (other skills related to	<ul style="list-style-type: none"> <li>• Alkynes. Elemental analysis (known quantity and quality sample).</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2	Transferable general and qualification skills (other skills related to	<ul style="list-style-type: none"> <li>• Dienes. Solution and filtration techniques (explanation of basic concepts).</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2	Transferable general and qualification skills (other skills related to	<ul style="list-style-type: none"> <li>• Stereochemistry I</li> </ul>	Reports, Assignments, oral and written theory	Blackboard PowerPoint slides E-learning

		employability and To develop (Personal.)	Re-crystallization (known sample)..	exams	Conduct experiments laboratory
8	2		<ul style="list-style-type: none"> <li>• Stereochemistry II</li> </ul> Re-crystallization (quiz and unknown sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		<ul style="list-style-type: none"> <li>• Alcohols</li> </ul> Extraction technique (known sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		<ul style="list-style-type: none"> <li>• ethers.</li> </ul> Extraction technique (quiz and unknown).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

## 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 40 marks.

- Final exam: 60 marks

## 12 . Learning and teaching resources

Required prescribed books (methodology) found)	Organic Chemistry by Robert T. Morrison and Robert N. Boyd . Organic Chemistry by McCurry; 5th ed. Thomason learning; CA,USA; 2000.
Main references (sources)	Organic Chemistry by Robert T. Morrison and Robert N. Boyd . Organic Chemistry by McCurry; 5th ed.
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	Thomason learning; CA,USA; 2000

## Course description

1. Name of the course:	
Microbiology	
2. Course code	
PHT 120	
3. Semester/level:	
First semester/First level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30 practical hours + 30 theoretical hours / number of units 4	
8. Objectives of the course	
Objectives of the academic subject	The primary goal of studying medical microbiology is to provide basic information about the science of Medical bacteriology, which includes giving an introduction to bacteria, including the structure of the bacterial wall and the sense of Its pharmacokinetics, bacterial resistance to antibiotics, components of bacterial cells, pathogenesis Bacteria and how diseases arise, the natural inhabitants of bacteria, It also includes the study of bacterial systems, giving an example for each group of pathogenic bacteria, and studying these Totals from a pathological perspective Types of diseases
<b>9. Teaching and learning strategies:</b>	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy				
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy				
10. Course structure:					
week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outputs		Reports,	Blackboard

		Student acquisition Basic information For bacteriology - the student should be able to know the causes and symptoms Diagnosing diseases resulting from injuries Bacteria Determine the appropriate medication For each disease case - knowing the methods of transmission of bacterial diseases - knowing the methods of prevention Of diseases Bacteria Acquiring skills - Preparing modern designs for drug composition and the method of preparing it - Analyzing the results of pharmaceutical tests, discussing them, and seeking help Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract Ideas - implanting values Ethical principles of correct dealing with patients  Transferable general and qualification skills (other skills related to employability and To develop	Introduction to Bacterology and classification, Morphology, Cell structures	Assignments, oral and written theory exams	PowerPoint slides E- learning Conduct experiments laboratory
2	2		Chemotherapy and sensitivity test	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
3	2		Genetic replication in microorganisms,	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
4	2		Pathogenicity and pathogenesis, Normal flora	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
5	2		Gram Positive cocci: Staphylococcus spp Streptococco spp	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
6	2		Gram positive Bacilli: Spore forming bacteria: Clostridium spp Bacillus spp	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
7	2		Gram negative cocci: Neisseria meningitidis Neisseria gonorrhoeae	Reports, Assignments, oral and written theory	Blackboard PowerPoint slides E- learning

		(Personal.)		exams	Conduct experiments laboratory
8	2		Gram negative bacilli: Homophiles spp Corynebacterium spp	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
9	2		Zoonotic Bacteria: Brucilla spp, Mycobacterium tuberculosis	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
10	2		Enterobacteriaceae: Introduction, Pseudomonas Bordetella	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory

### 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

### 12 . Learning and teaching resources

Required prescribed books (methodology) found)	Jawetz, Melnick, & Adelberg's Medical Microbiology, 28 the edition 2019,
Main references (sources)	Review Of Medical Microbiology (by Warren Livenson) Lippincott Microbiology
Recommended supporting books and references (scientific journals, reports,	Journal of Medical Microbiology and Infectious Diseases
Electronic references, Internet sites	<b>Daily Science</b>

## Course description

1. Name of the course:	
Medical Physiology	
2. Course code	
TID 106	
3. Semester/level:	
Second semester/First level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
٦. Number of academic hours (total) / number of units (total):	
٣٠ practical hours + 30 theoretical hours / number of units 4	
8. Objectives of the course	
Objectives of the academic subject	<p>1 Providing students with a sound scientific and practical background on many of the physiological principles The basic functions related to the various cells, organs, and systems of the body and their relationship to different Covering diseases and necessary treatments, which are necessary and fundamental to understanding the effect of various medications on The functioning of the body's systems, as well as it helps and enables students to understand the importance of physiology and experimentation. The process</p> <p>2) Enabling students to understand the basic principles of the physiological functions of different tissues and organs Fafa For humans, and how to evaluate these functions and link them to natural and abnormal conditions</p>
9. Teaching and learning strategies:	

Education   - Brainstorming strategy - Teamwork strategy - Discussion strategy
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strategies					
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy				
10. Course structure:					
week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outputs 1 Review the primary concepts related to the general and cellular basis of the science of the functions of organisms. Dhaaa	Review the initial concepts related to the general and cellular basis of medical physiology and the study of various vital body systems.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	Medical A study of various devices Biochemistry 2 (Introduction and demonstration of some laboratory equipment and how to use it) And the use of some scientific equipment	<p><b>Practical Part</b></p> <ul style="list-style-type: none"> <li>Introduction and Demonstration of some laboratory equipment's.</li> </ul> Teaching the students how to write laboratory scientific reports for different experiments and how to analyze and discuss the results of these experiments and scientific tests.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	Acquiring skills - Preparing modern designs for drug composition and the method of preparing it	laboratory scientific reports for different experiments and how to analyze and discuss the results of these experiments and scientific tests.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2	- Analyzing the results of pharmaceutical tests, discussing them, and seeking help Emotional outputs And value - thinking skills through translation	<p><b>B) Synaptic transmission:</b></p> <p><b>Practical Part</b> Experiment of Cardiovascular responses(CVR) to exercises.</p>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2	Analyze, evaluate and extract Ideas - implanting values Ethical principles of correct dealing with patients	<ul style="list-style-type: none"> <li>Respiration A) Respiratory zones;</li> </ul> <p><b>Practical Part</b> Measurement of arterial blood pressure in different positions_ supine &amp; standing positions.</p>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2	Transferable general and qualification	<b>B) Gas transport between the lungs and tissues;</b>	Reports, Assignments, oral and written theory	Blackboard PowerPoint slides E-learning

		skills (other skills related to employability and To develop (Personal.)		exams	Conduct experiments laboratory
7	2		<b>Practical Part</b> Experiment of Clinical Thermometry (body temperature) Part 1.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		<ul style="list-style-type: none"> <li>A) Introduction of renal Physiology: <b>Practical Part</b> Experiment of Clinical Thermometry (body temperature) Part 2.</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		<ul style="list-style-type: none"> <li>B) Tubuloglomerular feedback and glomerulotubular balance; <b>Practical Part</b> Experiment of Triple response.</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		<ul style="list-style-type: none"> <li>Cardiovascular System: <b>Practical Part</b> Experiment of Lung Functions Test Part 1.</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

## 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

## 12. Learning and teaching resources

Required prescribed books (methodology) found)

- 1) Guyton and Hall: Textbook of Medical Physiology. 14<sup>ed</sup>, 2022.
- 2) Ganong's Review of Medical Physiology. 25<sup>ed</sup>, 2016.  
Ganong's Review of Medical Physiology. 26<sup>ed</sup>, 2019.

Main references (sources)

- 1) Guyton and Hall: Textbook of Medical Physiology. 14<sup>ed</sup>, 2022.

	<b>2) Ganong's Review of Medical Physiology. 25<sup>ed</sup>, 2016. Ganong's Review of Medical Physiology. 26<sup>ed</sup>, 2019.</b>
Recommended supporting books and references (scientific journals, reports,	<b>1) Human Physiology "An integrated Approach". 15<sup>ed</sup>, 2014. Essentials of Human Physiology for Pharmacy. Laurie Kelly, McCorry. 2<sup>nd</sup>, (2008).</b>
Electronic references, Internet sites	<a href="http://www.physiologyplace.com"><u>www.physiologyplace.com</u></a>

## Course description

1. Name of the course:	
Human Rights and Democracy	
2. Course code	
NTU 100	
3. Semester/level:	
First semester/First level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
7. Number of academic hours (total) / number of units (total):	
30 theoretical hours / number of units 2	
8. Objectives of the course	
Objectives of the academic subject	Identifying the freedoms and rights of the individual and society and the role of each individual in it in terms of rights and duties, including In addition to the various state policies
<b>9. Teaching and learning strategies:</b>	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy				
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy				
10. Course structure:					
week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outputs Acquiring skills composition and the method of preparing it	The concept of the state and the government/legislative body/of the principle of separation between Authorities	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct

		discussing them, and seeking help Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract Ideas - implanting values Ethical principles of correct dealing with patients			experiments laboratory
2	2			Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	Transferable general and qualification skills (other skills related to employability and To develop (Personal.)		Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2		The executive body/the judicial body/the House of Representatives in their discussions and what they take It is decisions, rulings.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2		The idea of freedom is / First: basic or individual freedom / 1. Freedom of security and a sense of integrity Manan / 2. Freedom	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		Coming and going (movement) / 3. Freedom of inviolability of home and private life / 4. Freedom of privacy Baskets	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		Personality Intellectual and cultural freedom/1-Freedom of education/2-Freedom Assembly/3-Freedom of worship and belief/4-	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

8	2		Freedom of opinion and expression/Freedom Political	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		Economic and social freedom 1- Freedom of work 2- Freedom of ownership 3-	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		Freedom of trade and industry  4- Freedom of social security and health care/democracy	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

### 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 30 marks.
- Final exam: 70 marks

### 12 . Learning and teaching resources

Required prescribed books (methodology) found)	<b>Public freedoms and democracy / Al-Mustansiriya University lectures /University of Tikrit</b>
Main references (sources)	
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	

## Course description

1. Name of the course:	
The crimes of the Baath regime in Iraq	
2. Course code	
NTU 203	
3. Semester/level:	
First semester/Second level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
7. Number of academic hours (total) / number of units (total):	
30 theoretical hours / number of units 2	
8. Objectives of the course	
Objectives of the academic subject	<p>1- The primary goal of the crimes course is for students to become familiar with history. The tragedy caused by the Baath Party in Iraq.</p> <p>2- Introducing students to the types of crimes and their countless numbers.</p> <p>2- Educating the rising generations about the twisted ways of the tyrannical Baath administration system.</p> <p>3- Study the motives behind carrying out Baath crimes against the people.</p> <p>4- Study the political, administrative and military path of the Baath Party.</p>
<b>9. Teaching and learning strategies:</b>	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy
10. Course structure:	

week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method	
1	2	Cognitive outputs Acquiring skills composition and the method of preparing it discussing them, and seeking help Emotional outputs	<b>Basic terms</b>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory	
2	2	And value - thinking skills through translation Analyze, evaluate and extract Ideas - implanting values Ethical principles of correct dealing with patients		Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory	
3	2	Transferable general and qualification skills (other skills related to employability and To develop (Personal.)		Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory	
4	2			The history of the establishment of the Baath in Iraq.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
5	2			Types of crime.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
6	2			Causes and reasons for crimes.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory

7	2		The perpetrators of Baath crimes and its leaders The oppressor	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
8	2		The United Nations' view of crime The Baath.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
9	2		Human rights and Baath crimes.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
10	2		The Baath regime's human rights violations	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory

### 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today  
And daily, oral and monthly exams  
editorial, reports, etc.

- The semester exam is 30 marks.
- Final exam: 70 marks

### 12 . Learning and teaching resources

Required prescribed books (methodology) found)	Saddam Hussein Creation History Crime -
Main references (sources)	Abu Salam Abdullah, -
Recommended supporting books and references (scientific journals, reports,	Saddam resurrected a vision from within an authoritarian regime, Youssef Sassoon -
Electronic references, Internet sites	

## Course description

1. Name of the course:	
Pharmacognosy	
2. Course code	
PHT 210	
3. Semester/level:	
Second semester/Second level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
15 theoretical hours + 30 practical hours / number of units 3	
8. Objectives of the course	
Objectives of the academic subject	<p>This course aims to study the principles of drug science and medicinal plants, their naming, and their classification. The chemistry of the active ingredients it contains, in addition to learning methods for extracting the active ingredients Several methods and their purification</p> <p>It is diagnosed through several types of chromatography and their applications.</p>
<b>9. Teaching and learning strategies:</b>	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy
10. Course structure:	

week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outcomes - The student should be able to know Identification of the most important medicinal plants - Classification of natural products according to their medical effectiveness And its effective components - learning about scientific methods The correct methods for extracting and isolating the effective ingredients from natural sources.	<b>General Introduction: The Scope of Pharmacognosy, definitions and basic principles</b>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	- Determine how to use effective ingredients from natural sources as treatments. In alternative medicine through biological scientific examination Chemical and physical, and evaluate them through their use on animals.	Drugs from natural sources, crude drugs, official and non-official drugs.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	Experimental and biology The microsphere - How to work with Scientific devices Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract Ideas - implanting values Ethical principles of correct dealing with	<b>Classification of natural products</b>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2		Plant nomenclature and taxonomy Production of crude drugs:	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2		Production of crude drugs: Cultivation, collection, drying and storage	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		Deterioration of crude natural products	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

7	2	patients  Transferable general and qualification skills (other skills related to employability and To develop (Personal.)	Pharmacological activities of natural products	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		Chemistry of natural drug products	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		Quality control: Evaluation of natural products; macroscopical evaluation; physical evaluation	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		Quality control: Evaluation of natural products; chemical evaluation; biological evaluation; spectroscopical evaluation.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

### 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

### 12 . Learning and teaching resources

Required prescribed books (methodology) found)	Trease and Evans Pharmacognosy; 15th ed., 2000.
Main references (sources)	- Textbook Of Pharmacognosy and Phytochemistry Biren N. Shah and A.K. Seth
Recommended supporting books and references (scientific journals, reports,	Robbers JE, Speedie MK, Tyler VE (Eds.); Pharmacognosy and Pharmacobiotechnology; the latest edition. Michael Heinrich, Joanne Barnes; Fundamentals of Pharmacognosy & Phytotherapy.

Electronic references, Internet sites	American Society of Pharmacognosy (ASP)
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## Course description

1. Name of the course:	
Arabic	
2. Course code	
NTU 202	
3. Semester/level:	
Second semester/Second level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30 theoretical hours / number of units 2	
8. Objectives of the course	
Objectives of the academic subject	<p>1- The primary goal of the Arabic language is for students to be able to speak their own language. Pharmacy students familiarize themselves with linguistic rules, their re-recall and their open use - 2 Definition In speaking and writing.</p> <p>2-Learning about Arabic culture and its huge heritage.</p> <p>3- Study some famous literary texts and pieces in literature. Arabic.</p> <p>4- Study the rules of proper writing and dictation.</p>
9. Teaching and learning strategies:	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy
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Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy				
10. Course structure:					
week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outputs - That the student knows the meaning of the language in the dictionary and wrote The term. - Knowing how to compose	<b>Language is human identity.</b>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	The sentence in the language Arabic.  - Introducing the students Using the integer base in Arabic. - Introducing the students to one	Sentence construction.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	The most important methods of Arabic.  Emotional outputs And value - expressing feelings and thoughts in the	Number rules.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2	fewest words. And the best way. Emotional outputs And value - thinking skills through translation	Conditional style in Arabic.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2	Analyze, evaluate and extract Ideas - implanting values Ethical principles of correct dealing with patients	Dictating and writing.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2	Transferable general and qualification skills (other skills related to	Punctuation marks.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct

		employability and To develop (Personal.)			experiments laboratory
7	2		Arabic calligraphy.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		Arabic literature.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		From the biography of the poet Nizar Qabbani	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		Communicate in language.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

### 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

### 12 . Learning and teaching resources

Required prescribed books (methodology) found)	General Arabic book. A group of authors.
Main references (sources)	
Recommended supporting books and references (scientific journals, reports,	Mosque of Arabic Lessons, Mustafa Al-Ghalayini -

Electronic references, Internet sites	Dictionary of Language and Literature, Magdy Wahba and others -
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## Course description

1. Name of the course:	
Biochemistry	
2. Course code	
PHT 117	
3. Semester/level:	
Second semester/First level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30practical hours + 30 theoretical hours / number of units 4	
8. Objectives of the course	
Objectives of the academic subject	<p>1- The primary goal of biochemistry is to provide basic information and general principles to students. Initial tests that would introduce the recipient to the special structure of biomolecules. Rah</p> <p>The small one. 2- Introducing third-year students to carbohydrates and proteins. And fats, in addition to nucleic acids, enzymes, and vitamins.</p> <p>3- Identifying the types of enzymes and their inhibitors (enzyme kinetics).</p>
9. Teaching and learning strategies:	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy
10. Course structure:	

week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outcomes - The student should be able to Knowledge of vehicles Sugar - identify and know Types of sugars Unilateralism And bilateral.	<ul style="list-style-type: none"> <li>Introduction to the macromolecules biochemistry: Definitions and terms; Carbohydrate, proteins, enzymes, DNA, Clinical value.</li> </ul> Color reactions of	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	To be able To know the protein substances And its components. - It must be for the student The ability to recognize vehicles Fatty acids and fatty acids and their presence With the body.	<ul style="list-style-type: none"> <li>Amino acids: Structures of A.A (table of standard A.A abbreviation and side chain); classification, properties, isomerism.</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	Emotional outputs And value - expressing feelings and thoughts in the fewest words.	Color reactions of proteins: Millons test; Hopkins-Cole test; unoxidized sulfur test.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2	And the best way. Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract	<ul style="list-style-type: none"> <li>Carbohydrates: Chemistry and classification</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2	Ideas - implanting values Ethical principles of correct dealing with patients  Transferable general and qualification skills (other skills related to employability and To develop	biomedical importance, classification of CHO, Stereochemistry of monosaccharides, metabolism of CHO; Physiologically important monosaccharides, glycosides, disaccharides, polysaccharides.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2	and To develop (Personal.)	Classification of carbohydrates according to	Reports, Assignments, oral and	Blackboard PowerPoint slides E-

			reducing properties: Iodine test; Ozasone test.	written theory exams	learning Conduct experiments laboratory
7	2		<ul style="list-style-type: none"> <li>Lipids: Introduction, classification of lipids, fatty acids, nomenclature of F.A, saturated F.A, unsaturated F.A, physical and physiological properties of F.A, metabolism of lipids. Phospholipids, lipid peroxidation and antioxidants, separation and identification of lipids, amphipathic lipids.</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		Determination of unknown carbohydrates sample	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		Enzymes: Structures and mechanism, nomenclature, classification, mechanisms of catalysis, thermodynamics, specificity, lock and key model, induced fit model, transition state stabilization, dynamics and function, allosteric modulation. Biological function, cofactors,	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		<ul style="list-style-type: none"> <li>Enzyme inhibition: Reversible inhibitors, competitive and non competitive inhibition, mixed- type inhibition, Irreversible inhibition. Inhibition kinetics and binding affinities (ki), questions and solutions.</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

## 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

## 12 . Learning and teaching resources

Required prescribed books (methodology) found)	Harper's Illustrated biochemistry 30th Edition 2015,
Main references (sources)	<ul style="list-style-type: none"> <li>- Lehninger PRINCIPLES OF BIOCHEMISTRY Fourth Edition 2004</li> </ul> <p>Lippincotts Illustrated Reviews Biochemistry - 3rd edition 2004</p>
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	

## Course description

1. Name of the course:	
Pharmaceutical chemistry	
2. Course code	
PHT 213	
3. Semester/level:	
Second semester/Second level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30 practical hours + 30 theoretical hours / number of units 4	
8. Objectives of the course	
Objectives of the academic subject	To enable understanding of drug action mechanisms at the molecular level, and the role of medicinal chemistry in Discovery and development of synthetic therapeutic agents. It also enables students to understand the concept of the relationship between structure and activity and apply it in Design and manufacture of new compounds or derivatives
<b>9. Teaching and learning strategies:</b>	

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy
10. Course structure:	

week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outcomes - The student should be able to Knowledge of vehicles Sugar - identify and know Types of sugars	<ul style="list-style-type: none"> <li>• Drug distribution.</li> <li>• Preparation and standardization of 0.1N <math>\text{KMnO}_4</math></li> <li>• (known sample).</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	Unilateralism And bilateral. To be able To know the protein substances And its components. - It must be for the student The ability to	<ul style="list-style-type: none"> <li>• Acid- base properties.</li> </ul> Preparation and standardization of 0.1N $\text{KMnO}_4$ (quiz and unknown).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	recognize vehicles Fatty acids and fatty acids and their presence With the body. Emotional outputs And value - expressing feelings and thoughts in the fewest words.	Color reactions of proteins: Millons test; Hopkins-Cole test; unoxidized sulfur test.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2	And the best way. Emotional outputs And value - thinking skills through translation	<ul style="list-style-type: none"> <li>• QSAR models.</li> </ul> Assay of hydrogen peroxide solution (quiz and unknown sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2	Analyze, evaluate and extract Ideas - implanting values Ethical principles of correct dealing with patients  Transferable general and qualification skills (other skills related to employability and To develop (Personal.)	biomedical importance, classification of CHO, Stereochemistry of monosaccharides, metabolism of CHO; Physiologically important monosaccharides, glycosides, disaccharides, polysaccharides.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2	related to employability and To develop (Personal.)	<ul style="list-style-type: none"> <li>• Drug receptor interaction: force involved.</li> </ul>	Reports, Assignments, oral and written theory	Blackboard PowerPoint slides E-learning

			Assay of ferrous sulfate (unknown sample).	exams	Conduct experiments laboratory
7	2		<ul style="list-style-type: none"> <li>• Steric features of drugs.</li> <li>• Preparation and standardization of 0.1Na<sub>2</sub>S<sub>2</sub>O<sub>4</sub> solution (known sample).</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		<ul style="list-style-type: none"> <li>• Optical isomerism</li> <li>• Preparation and standardization of 0.1Na<sub>2</sub>S<sub>2</sub>O<sub>4</sub> solution (quiz and unknown sample).</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		<ul style="list-style-type: none"> <li>• biological activity.</li> </ul> Assay of copper sulfate (known sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		<ul style="list-style-type: none"> <li>• Calculated conformation.</li> </ul> Assay of copper sulfate (unknown sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

### 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

### 12 . Learning and teaching resources

Required prescribed books (methodology) found)	Wilson and Gisvold; Textbook of Organic medicinal and Pharmaceutical chemistry; Delgado JN, Remers WA, (eds); latest edition
Main references (sources)	Organic Chemistry by McCurry; 5th ed.
Recommended supporting books and references	Handbook for Practical Pharmaceutical Chemistry Adopted by the Department

(scientific journals, reports,	
Electronic references, Internet sites	

## Course description

1. Name of the course:	
Pharmacology	
2. Course code	
PHT 214	
3. Semester/level:	
Second semester/Second level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30practical hours + 30 theoretical hours / number of units 4	
8. Objectives of the course	
Objectives of the academic subject	<p>1. The general goal of this academic course is to define concepts and basic principles of science Pharmacy, which you can apply in the rest of the medical curriculum. 2. Definition of the nature of medicines, their sources, characteristics, effects, and the therapeutic value of the substances. Essential in the main drug classes. 3. Introducing students to how the body deals with medications through the processes of absorption and Diffusion, metabolism, secretion or excretion (pharmacokinetics) and how they work Biologically through mechanism of action and adverse drug interactions (pharmacodynamics). 4 Introducing students to the methods of administration (enteral and parenteral) and their characteristics, in addition to</p>

	<p>Gaining them the skill of choosing the preferred route of administration for a specific therapeutic goal. 5. Definition of students Pharmacology of the main neurotransmitters of the sympathetic nervous system and para sympathomimetics, their preparation and release, types of their receptors, their site of action and Her oxen. Introducing them to the different types of medications that affect the autonomic nervous system. stimulant or inhibitor) and knowing its mechanism of action and its uses in treating medical problems In addition to</p> <p>Identify side effects and contraindications for commonly used involuntary medications.</p>
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### 9. Teaching and learning strategies:

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy

### 10. Course structure:

week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outputs At the end of the course Students will be able to: - Describe the role and scope of science Pharmacy. -	General introduction to • Pharmacology and Pharmacokinetics.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	Knowledge of dynamics Basic pharmacokinetics (effects and mechanism) and clinical pharmacokinetics required for prescription	Continue Pharmacokinetics Drug	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	Safe and effective. - Knowing the interactions Harmful drugs, interactions and abuse problems Use and management	Receptor interaction and Pharmacodynamics	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

		of medications. - Understanding the physiology of vectors Autonomic nervous system, classification of autonomic receptors and identification of drugs affecting them. Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract Ideas - implanting values Ethical principles of correct dealing with patients			
4	2		Pharmacodynamics The autonomic	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
5	2		Cholinergic system	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
6	2	Transferable general and qualification skills (other skills related to employability and To develop (Personal.)	Continue Cholinergic system.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
7	2		Adrenergic system.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
8	2		Principal of antimicrobial therapy. $\beta$ - lactam and other cell wall synthesis inhibitor antibiotics.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
9	2		Continue $\beta$ - lactam and other cell wall synthesis inhibitor antibiotics.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct

					experiments laboratory
10	2		Quinolones, Folate antagonists, and urinary tract antiseptics.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

### 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

### 12 . Learning and teaching resources

Required prescribed books (methodology) found)	Lippincott Illustrated Reviews Pharmacology 7th Edition, 2019.
Main references (sources)	<ul style="list-style-type: none"> <li>- Goodman &amp; Gilman's The Pharmacological Basis of Therapeutics 13th edition 2018.</li> <li>- Basic &amp; Clinical Pharmacology 14th Edition 2018</li> </ul> Rang & Dale's Pharmacology 9th Edition 2020
Recommended supporting books and references (scientific journals, reports,	British National Formulary
Electronic references, Internet sites	FDA

## Course description

1. Name of the course:	
Professional Ethics	
2. Course code	
NTU 201	
3. Semester/level:	
Second semester/Second level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30 theoretical hours / number of units 2	
8. Objectives of the course	
Objectives of the academic subject	It is to provide students with a sound theoretical background on the principles of pharmaceutical ethics in terms of identifying The theories of medical ethics and the laws of practicing the profession that regulate The interaction between the pharmacist with the patient and with the medical staff who works with him.
<b>9. Teaching and learning strategies:</b>	

Education strategies

- Brainstorming strategy - Teamwork strategy - Discussion strategy

Learning strategies - Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy

10. Course structure:

week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outputs 1-How to work Patients. 2-Learning using different scientific techniques 3- Improving interaction With various ethical issues	• Introduction to Pharmacy Ethics (Theoretical considerations).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	What the pharmacist faces in the market Work. Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract	Law and Ethics	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	Ideas - implanting values Ethical principles of correct dealing with patients  Transferable general and qualification skills (other skills related to employability and To develop (Personal.)		Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2			Code of Ethics for Pharmacists.	Reports, Assignments, oral and written theory exams
5	2		The Common Considerations Pharmaceutical Practice (Beneficence,	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		Common Ethical Considerations in Pharmaceutical Care	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct

			Practice Autonomy, Honesty		experiments laboratory
7	2		Common Ethical Considerations in Pharmaceutical Practice Informed Consent, Confidentiality, Fidelity .....).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
8	2		The Common Considerations Pharmaceutical Practice (Beneficence, .	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
9	2		Differentiation rules, the tangent line to the curve, and applications	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory
10	2		The derivative of trigonometric functions, their applications, and exercises	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory

## 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today  
And daily, oral and monthly exams  
editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

## 12 . Learning and teaching resources

Required prescribed books  
(methodology)  
found)

- 1- Ruth Rodgers, (ed.); fast track: Law and Ethics in Pharmacy  
Practice. Pharmaceutical  
Press 2010.
- 2- Joy Wingfield and David Badcott . Pharmacy Ethics and Decision  
Making.

	Pharmaceutical Press2007
Main references (sources)	<ul style="list-style-type: none"> <li>Robert J. Cipolle, Linda M. Strand, Peter C. Morley. Pharmaceutical Care Practice: The Clinician's Guide, 2nd Edition.</li> <li>Robert m. Veatch and Amy Haddad. Case Studies in Pharmacy Ethics. second edition.</li> </ul> Copyright © 2008 by Oxford University Press, Inc.
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	

## Course description

1. Name of the course:	
Toxicology	
2. Course code	
PHT 209	
3. Semester/level:	
First semester/Second level	
4. Date this description was prepared:	
27 / 1 / 2025	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30 theoretical hours / number of units 2	
8. Objectives of the course	
Objectives of the academic subject	<p>To study the principle of exposure to toxic chemicals and physical elements</p> <p>Various environmental factors, their sources, mechanisms of toxicity and danger to humans, so that Students should be able to understand the measures required to protect</p> <p>Living organisms against suspected toxic risks and how to deal with them carefully and be aware of the most important Beneficial treatment methods for all elements</p>

	and compounds Toxic.
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### 9. Teaching and learning strategies:

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy

### 10. Course structure:

week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outcomes 1- How to deal with laboratory scientific equipment 2- Learning with will use different scientific techniques 3-Analysis of the results of pharmaceutical analysis tests	<ul style="list-style-type: none"> <li>• Introduction: General considerations.</li> <li>•</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	Discussing them and using them in the drug design and formulation processes and how to Inhibiting the action of toxic substances	<ul style="list-style-type: none"> <li>• Host factor, environmental</li> <li>• Toxic effect factors</li> <li>•</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	5- The ability to write and draft pharmaceutical laboratory reports on the results of tests, etc. Scientific tests and the ability to deduce results and their effects from Testing		Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2	Acquiring skills - preparing modern	Introduction to toxic materials Public	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

5	2	designs for drug composition and methods Preparing it - Analyzing the results of pharmaceutical tests, discussing them, and using them	Toxic carcinogenic substances	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2	In the design and evaluation processes Prepared medicine - acquiring the skill in writing scientific reports .Emotional outputs And value - thinking skills through	Introduction to using the devices Scientific laboratory	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2	translation Analyze, evaluate and extract Ideas - implanting values Ethical principles of correct dealing with patients	Targeted organs and knowledge Systemic toxins liver.( ) Toxic substances on liver cells.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2	Transferable general and qualification skills (other skills related to employability and To develop (Personal.)	Target organs and system toxicology. The device Respiratory nicotine poisoning	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		Target members and knowledge Systemic toxins. College	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		cyanide toxicity	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

## 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today

And daily, oral and monthly exams editorial, reports, etc.
- The semester exam is 30 marks. - Final exam: 70 marks

<b>12 . Learning and teaching resources</b>	
Required prescribed books (methodology) found)	<b>Casarett and Doull, Toxicology</b>
Main references (sources)	<b>the Basic Science of Poisons; latest edition</b>
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	

### Course description

1. Name of the course:
Industrial Pharmacy
2. Course code
PHT 212
3. Semester/level:
Second semester/Second level
4. Date this description was prepared:
27 / 1 / 2025
5. Available attendance forms:
presence
7. Number of academic hours (total) / number of units (total):
30practical hours + 30 theoretical hours / number of units 4
8. Objectives of the course

Objectives of the academic subject	This topic aims to teach pharmacy students the steps and lines that must be followed, which are pretreatment This rough material provides the basic principles required to integrate knowledge of pharmaceutical technology into pre-formulation of the dosage form Second. It includes grinding, mixing, drying and filtration, in addition to sterilization to achieve the correct form. Addressing dosage forms.
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### 9. Teaching and learning strategies:

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy

### 10. Course structure:

week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outcomes: Distinguishing between different methods of discovering Drugs 2 - Definition of pharmacology and drug metabolism And toxicology.	<ul style="list-style-type: none"> <li>Principles of pharmaceutical processing; Introduction in industrial pharmacy and pre-formulation.</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	Acquiring skills - preparing modern designs for drug composition and methods Preparing it - Analyzing the results of pharmaceutical tests, discussing them, and using them in In the design and evaluation processes	<ul style="list-style-type: none"> <li>Mixing; fluid mixing; flow characteristics</li> </ul>	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	Prepared medicine - acquiring the skill in writing scientific reports .Emotional outputs And value - thinking skills through translation	Effervescent granules: Preparation and characterization	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2	Analyze, evaluate	<ul style="list-style-type: none"> <li>Milling; pharmaceutical application</li> </ul>	Reports, Assignments, oral and written theory	Blackboard PowerPoint slides E-learning

		and extract Ideas - implanting values	Flow properties and rheology of granules.	exams	Conduct experiments laboratory
5	2	Ethical principles of correct dealing with patients  Transferable general and qualification skills (other skills related to employability and To develop (Personal.)	<ul style="list-style-type: none"> <li>Size measurement methods;</li> </ul> Flow properties and rheology of granules(cont)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		<ul style="list-style-type: none"> <li>Drying: definition; purpose; humidity measurement</li> </ul> Tablet dosage form: Preparation and characterization	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		<ul style="list-style-type: none"> <li>Theory of drying</li> </ul> Tablet dosage form: Preparation and characterization	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		<ul style="list-style-type: none"> <li>Theory of drying (cont)</li> </ul> Review and tutorial	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		<ul style="list-style-type: none"> <li>Clarification and filtration.</li> </ul> Evaluation of tablets	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		Theory; filter media; filter aids;	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

## 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today  
And daily, oral and monthly exams  
editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

## 12. Learning and teaching resources

Required prescribed books (methodology) found)	<b>The Theory and Practice of Industrial Pharmacy by Leon Lachman et al</b>
Main references (sources)	Aulton's Pharmaceutics The Design and Manufacture of Medicines
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	<b>BNF, BP and USP</b>

## Course description

1. Name of the course:
Community Health
2. Course code
PHT 217
3. Semester/level:
Second semester/Second level
4. Date this description was prepared:
27 / 1 / 2025
5. Available attendance forms:
presence
6. Number of academic hours (total) / number of units (total):
30 theoretical hours / number of units 2
8. Objectives of the course

Objectives of the academic subject	Learning and teaching public health awareness, especially that related to treatment. Pharmaceutical and non-pharmacological treatment for medical conditions that commonly occur in the society.
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### 9. Teaching and learning strategies:

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy

### 10. Course structure:

week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outcomes: How to deal with medical cases in general? Especially with simple cases that commonly occur in society. 2 - Causes, symptoms, and diagnosis of the case	Basic principles and introduction to community health	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	Simple, common occurrence in society 3- How to treat the patient Educating him about health 4- Educating the student scientifically In his specialty 5- How to conduct and give seminars and lectures	The first Medical cases - Digestive system - Part Two	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2	Quality .Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract Ideas - implanting values	General review and discussion for previous lessons	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2	Ethical principles of	Basic principles and introduction to epidemiology	Reports, Assignments, oral and	Blackboard PowerPoint slides E-

		correct dealing with patients		written theory exams	learning Conduct experiments laboratory
5	2	Transferable general and qualification skills (other skills related to employability and To develop (Personal.)	Epidemiological studies	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		Pathological conditions - malnutrition - Part One	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		types of epidemiological study designs and measurements Its outputs	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		Pathological conditions - the digestive system - Part	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		The first Medical cases -	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		Digestive system - Part Two	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

## 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today And daily, oral and monthly exams editorial, reports, etc.

- The semester exam is 30 marks.
- Final exam: 70 marks

## 12 . Learning and teaching resources

Required prescribed books (methodology) found)	<b>The Theory and Practice of Industrial Pharmacy by Leon Lachman et al</b>
Main references (sources)	Aulton's Pharmaceutics The Design and Manufacture of Medicines
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	<b>BNF,BP and USP</b>

## Course description

1. Name of the course:
Therapeutics Application
2. Course code
PHT 216
3. Semester/level:
Second semester/Second level
4. Date this description was prepared:
27 / 1 / 2025
5. Available attendance forms:
presence
6. Number of academic hours (total) / number of units (total):
15 theoretical hours + 30 practical hours / number of units 3
8. Objectives of the course

Objectives of the academic subject	<p>1- The primary goal of therapeutics is to give the student the scientific lectures that qualify him to know the treatment of the disease. Clinical cases and how to deal with basic diseases and their common symptoms, as well as death. Basic information and general principles upon which optimal use is based For medicines in treating patients. 2- Introducing pharmacy students to clinical diseases that affect the heart.</p> <p>How to deal with it and identify the ideal solution to treat it. 2-Learning about diseases of the urinary system and how to deal with them.</p> <p>The ideal solution to address it. 3- Identifying diseases of the nervous system, how to deal with them, and the ideal solution for treating them. That's it.</p>
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### 9. Teaching and learning strategies:

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy
Learning strategies	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya - Practical field training strategy - Self-learning strategy

#### 10. Course structure:

week	Hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Cognitive outcomes - The student should be able to know the causes and symptoms And diagnose diseases Different types of medication -	Acute kidney failure and hemodialysis and peritoneal dialysis for patients with kidney failure	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2	- determining the appropriate medication For every medical condition - know everything related to it. By the effects of medications	Chronic kidney failure	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

3	2	.Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract Ideas - implanting values	Fluid and electrolyte disturbances in the body	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2	Ethical principles of correct dealing with patients  Transferable general and qualification skills (other skills related to employability and To develop (Personal.)	Benign prostatic hyperplasia	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2		Urinary incontinence in adults and children	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		Acute coronary artery diseases	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		Irregular heartbeat	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		Coagulation	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		Stroke	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct

					experiments laboratory
10	2		Inflammatory bowel disease	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E- learning Conduct experiments laboratory

### 11. Evaluation of the course

Distribution of the score from 100 according to the tasks assigned to the student, such as preparation today  
And daily, oral and monthly exams  
editorial, reports, etc.

- The semester exam is 40 marks.
- Final exam: 60 marks

### 12 . Learning and teaching resources

Required prescribed books (methodology) found)	Pharmacotherapy hand book 7th Edition
Main references (sources)	<ul style="list-style-type: none"> <li>- Roger Walker, Clive Edwards (eds),</li> <li>- Clinical Pharmacy &amp; Therapeutics , Barbara G.Wells &amp; Joseph T. Diriro, Pharmacotherapy hand book 7th Edition</li> </ul>
Recommended supporting books and references (scientific journals, reports,	British National Formulary
Electronic references, Internet sites	FDA