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

Academic Program and Course Description Guide

2024

University Name:

Faculty/Institute:

Scientific Department:

Academic or Professional Program Name:

Final Certificate Name:

Academic System:

Description Preparation Date: 4/9/2024

File Completion Date: 4/9/2024

Signature: 

Head of Department Name:

Dr.Khansaa Basem Fadhil

Signature: 

Scientific Associate Name:

Prof.Dr.Hanan Shahab Ahmed

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature: 

Approval of the Dean

Assist Prof.Dr.Maha Elttaif Jasim

1. Program Vision

The effort to secure and achieve educational, pedagogical, and humanitarian programs in order to enhance skills and build capacities of educational outputs in pharmaceutical education, training, and scientific research to develop the pharmaceutical services provided to the beneficiaries.

2. Program Mission

Preparing administrative and technical cadres to provide the best pharmaceutical services to the community through the quality of graduates in this specialization and ensuring professional and human dealing. Providing high-quality education and scientific research that meets the requirements of the era, supplying the labor market with highly competitive competencies, attracting distinguished scientific cadres, preserving heritage and national identity, and building strategic partnerships with the local community and all sectors, towards achieving advanced ranks in classification, teaching, research, and community service .

3. Program Objectives

Preparing qualified technical staff to work in the fields of clinical and pharmaceutical pharmacy under the supervision of a pharmacist, and in the field of pharmaceutical and chemical industries under the supervision of either a pharmacist or a chemist.

4. Program Accreditation

5. Other external influences

There is a relationship between the medical department and the health sector through training, follow-up, and the presence of a sponsoring entity that contributes to:

1-Connecting the program to the labor market or community
2-Providing financial, logistical, or training support
3-Facilitating employment and practical training
4-Continuous guidance for the program.

6. Program Structure				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews**
Institution Requirements	9	18	15.7%	Core curriculum
College Requirements	5	14	12.2%	Essential and non-essential
Department Requirements	25	82	71.9%	Essential and non-essential
Summer Training				Satisfaction
Other				

7. Program Description				
Year/Level	**Course Code**	**Course Name**	**Credit Hours**	
			theoretical	**practical**
2024/2025 Level one	NTU 100	Human Rights and Democratic	٢	٠
	NTU 101	English language	٢	٠
	NTU 102	Principles computer	١	١
	NTU 104	Arabic	٢	٠
	NTU 105	Sport (optional)	١	١
	NTU 106	French language (optional)	٢	٠
	TID 107	Physiology	٢	٢
	TID 108	Laboratory and workshop safety	٢	٠
	TID 109	Medical Terminology	٢	٠
	TID 110	Anatomy	٢	٢
	PHT 111	Principles Pharmacy	٢	٢
	PHT 112	Basics of Organic chemistry	٢	٢
	PHT 113	Analytical Chemistry	٢	٢
	PHT 114	Pharmaceutical Calculation	٢	٢
	PHT 115	Organic Chemistry	٢	٢
	PHT 116	Microbiology	٢	٢
	PHT 117	Biochemistry	٢	٢

	PHT 118	(optional) First aid	٢	٠
	PHT 119	Psychology (optional)	٢	٠
2024/2025 Level two	NTU 203	crimes of the Ba'ath regime in Iraq	٢	٠
	NTU 202	Arabic	٢	٠
	NTU 203	Professional Ethics	٢	٠
	TID 202	Statistics	٢	٠
	PHT 203	Toxicology	٢	٢
	PHT 204	Industrial Principles	٢	٢
	PHT 205	Principle of pharmaceutical chemistry	٢	٢
	PHT 206	Principle of Drugs	٢	٢
	PHT 207	Medicinal plants and natural products	١	٢
	PHT 208	Basic of Applied therapeutic	١	٢
	PHT 209	Toxicology	٢	٠
	PHT 211	Pharmaceutical Formulation	٢	٢
	PHT 212	Industrial Pharmacy	٢	٢
	PHT 213	Pharmaceutical chemistry	٢	٢
	PHT 214	Pharmacology	٢	٢
	PHT 215	Therapeutics Application	١	٢
	PHT 216	pharmacognosy	١	٢
	PHT 210	Proposal	٠	٢
	PHT 217	Community Health (optional)	١	٠
	PHT 218	Commutation Skills (optional)	١	٠

8. Expected learning outcomes of the program
Knowledge
1-The student's ability to apply knowledge in medical fields in general and in the field of pharmacy in particular. 2-The student's knowledge of the principles and professional and ethical responsibilities in the field of specialization.

3-Knowledge of the pharmacological effects of different types of drugs and studying their effects and effectiveness within the body. 4- Enabling the student to assist the doctor in diagnostic and therapeutic procedures during the implementation of health programs.
Skills
1-Preparing students for work and integration into multidisciplinary teams. 2- Enabling students to acquire skills in the methods of assembling and preparing medications. 3- Qualifying students to use modern technologies and specialized skills and tools in the field of pharmacy. 4-Skill in maintaining and operating pharmaceutical devices.
Ethics
1- The student's interest in effective communication with those involved in the field of specialization. 2- Developing the student's ability to benefit from available resources. 3- Enhancing the student's ability to perform daily tasks. 4- A love of knowledge and benefiting from science.

9. Teaching and Learning Strategies
(theoretical lectures, discussion and dialogue, practical lectures, field visits, discussion circles, laboratories, office activities, solving examples, graduation project, summer training)

10. Evaluation methods
Oral tests, written tests, weekly reports, daily attendance, midterm and final exams.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Teacher	Biology	microbiology			staff	
Assistant teacher	Chemistry Sciences	Life-related			staff	
Assistant teacher	Chemistry Sciences	Analytical			staff	
Assistant teacher	Biology	Virology				lecturer
Assistant teacher	Biology	Physiology				lecturer
Assistant teacher	Chemistry Sciences	Analytical				lecturer

Assistant teacher	Chemistry Sciences	Organic				lecturer
Assistant teacher	Pharmaceutical Techniques					lecturer
Assistant teacher	Pharmaceuticals					lecturer
Assistant teacher	Medicines and poisons					lecturer
Assistant teacher	Pharmaceutical Chemistry					lecturer
Assistant teacher	Industrial Pharmacy					lecturer
Assistant teacher	Pharmaceutical Chemistry					lecturer
Assistant teacher	Industrial Pharmacy					lecturer

Professional Development
Mentoring new faculty members
1- Conduct weekly seminars and presentations to develop the skills of faculty members in delivering lectures or scientific research and effective communication methods with the audience. 2- Encourage them to participate in the continuous education branch courses and other scientific activities and academic workshops. 3- Support them to participate in external conferences and various community service works.

Professional development of faculty members
The department is working on improving the personal performance of the teaching staff and enhancing their career advancement to maintain the competence of pharmacists and elevate their knowledge and skills within the healthcare system, in addition to their role in academic work. Therefore, one of the requirements for the promotion of faculty members is active participation in establishing and attending continuous professional development activities such as workshops, seminars, courses, organizing scientific forums, or awareness lectures, and collaborating with healthcare institutions to establish educational activities aimed at addressing gaps in knowledge and skills, as well as conducting free awareness campaigns on important topics that affect public health such as drug abuse, autism, chronic and widespread diseases, and educating patients about their treatments.

12. Acceptance Criterion
The admission standards for the daytime study are part of the central admission plan approved by the Ministry of Higher Education and Scientific Research. The admission standards for the evening study are identical to the actual admission plan for daytime study.

13. The most important sources of information about the program
The website of the Technical Institute / Al-Door in both Arabic and English The website of the Northern Technical University The website of the Ministry of Higher Education and Scientific Research The page of the Technical Institute / Al-Door on social media

14. Program Development Plan
Updating and developing curricula according to labor market requirements through specialized committees for curriculum updates. Conducting regular surveys for the beneficiaries from students, the community, and employers in pharmacies, hospitals, and pharmaceutical factories regarding the department's mission and objectives, the curricula, teaching methods, and evaluation. Expanding the use of electronic technologies in training. Opening up to the community and providing volunteer activities. Directing students' research towards practical projects that address community issues.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2024/2025 Level one	NTU 100	Human Rights and Democratic	Essential	X	X	X	X	X	X		X	X	X	X	X
	NTU 101	English language	Essential	X			X	X	X		X	X	X		
	NTU 102	Principles computer	Essential	X		X	X	X	X			X	X		X
	NTU 104	Arabic	Essential	X			X	X	X			X	X		
	NTU 105	Sport (optional)	Optional	X		X	X	X	X		X	X	X		X
	TID 106	Physiology	Essential	X	X	X	X	X	X			X	X	X	X
	TID 108	Laboratory and workshop safety	Essential	X		X	X	X	X	X	X	X	X		X
	TID 109	Medical Terminology	Essential	X		X	X	X	X			X	X		X
	TID 110	Anatomy	Essential	X				X	X			X	X		
	PHT 112	Principles Pharmacy	Essential	X		X	X	X	X				X		X

	PHT 113	Basics of Organic chemistry	Essential	X			X	X	X			X	X		
	PHT 114	Analytical Chemistry	Essential	X			X	X	X			X	X		
	PHT 115	Pharmaceutical Calculation	Essential	X			X	X	X			X	X		
	PHT 116	Organic Chemistry	Essential	X			X	X	X			X	X		
	PHT 120	Microbiology	Essential	X	X	X	X	X	X			X	X	X	X
	PHT 117	Biochemistry	Essential	X		X	X	X	X		X	X	X		X
	PHT 118	First aid	Optional	X		X	X	X	X		X	X	X		X
2024/2025 **Level two**	NTU 203	crimes of the Ba'ath regime in Iraq	Essential	X			X	X	X			X	X		
	NTU 202	Arabic	Essential	X		X	X	X	X			X	X		X
	NTU 204	Professional Ethics	Essential	X		X	X	X	X			X	X		X
	TID 202	Statistics	Essential	X	X	X	X	X	X			X	X	X	X
	PHT 203	Pharmaceuticals	Essential	X	X	X	X	X	X				X	X	X
	PHT 204	Industrial Principles	Essential	X			X	X	X				X		
	PHT 205	Principle of pharmaceutical chemistry	Essential	X		X	X	X	X			X	X		X

	PHT 206	Principle of Drugs	Optional	X		X	X	X	X				X		X
	PHT 207	Medicinal plants and natural products	Essential	X			X	X	X			X	X		
	PHT 208	Basic of Applied therapeutic	Essential	X			X	X	X			X	X		
	PHT 209	Toxicology	Essential	X			X	X	X			X	X		
	PHT 211	Pharmaceutical Formulation	Essential	X			X	X	X			X	X		
	PHT 212	Industrial Pharmacy	Essential	X			X	X	X				X		
	PHT 213	Pharmaceutical chemistry	Essential	X			X	X	X			X	X		
	PHT 214	Pharmacology	Essential	X	X	X	X	X	X			X	X	X	X
	PHT 215	Therapeutics Application	Essential	X			X	X	X			X	X		
	PHT 216	Pharmacognosy	Essential	X				X	X			X	X		
	PHT 210	Proposal	Essential	X				X	X			X	X		
	PHT 217	Community Health	Essential	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:	
4/9/2024	
5. Available attendance forms:	
presence	
6. Number of academic hours (total) / number of units (total):	
30practical hours + 30 theoretical hours / number of units 4	
7-name of the course instructor / Ghassan Saoud	
Ghasaan.sa89@gmail.com	
8. Objectives of the course	
Objectives of the academic subject	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
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 scientific equipment 2- Learning using technology Different scientific intentions 3. Understanding prescription components and units of measurement For pharmaceutical systems. 5-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 Acquiring skills -Preparing designs Modern to install The medicine and how to prepare it -Analysis of results	Some fundamentals of measurements and calculations	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		Some fundamentals of measurements and calculations (cont.)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2		. Interpretation of prescription or medication Orders	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 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	Interpretation of prescription or medication orders(cont)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		The metric system	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		The metric system(cont.)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2			Reports,	Blackboard

		employability and To develop (Personal.)	Calculation of doses	Assignments, oral and written theory exams	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)	**Pharmaceutical Calculation by Stoklosa**
Main references (sources)	**Pharmaceutical Calculations** **13th Edition** **Howard C. Ansel, PhD**
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	**USP**

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:	
4/9/2024	
5. Available attendance forms:	
Presence	
6. Number of academic hours (total) / number of units (total):	
30practical hours + 30 theoretical hours / number of units 4	
7-name of class / mohaned Habeeb Ahmed	
mohaned.ha@ntu.edu.iq	
8 . Objectives of the course	
Objectives of the academic subject	It is to provide students with a sound theoretical background in the chemical principles that are considered 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
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-	Review of	Reports,	Blackboard

		How to deal with scientific equipment 2-Learning using technology Different 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 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 Acquiring skills -Preparing designs Modern to install	elementary concept important to analytical chemistry: Strong and weak electrolytes; important weight and concentration units. Demonstration of some laboratory equipment's.	Assignments, oral and written theory exams	PowerPoint slides E-learning Conduct experiments laboratory
2	2		• The evaluation of analytical data 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		factor. Analysis of group 1 cations mixture.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2		• The scope of applications of gravimetric analysis: Inorganic precipitating agents; organic precipitating agents. 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	• An introduction to volumetric methods of analysis 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	• Volumetric	Reports, Assignments, oral and written	Blackboard PowerPoint slides E-

		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 (Personal.)	calculations; acid-base equilibria. Analysis of sodium carbonate	theory exams	learning Conduct experiments laboratory
7	2		• pH calculations. Analysis of sodium hydroxide mixture	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		• Buffer solutions: Theory of neutralization titrations of simple system. Determination of chloride by the Mohr method.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		• Theory of neutralization titrations of complex system • Determination of chloride by the Volhard method.	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. Name of the course:
Computer Principles
2. Course code
NTU 102
3. Semester/level:
First semester/first level
4. Date this description was prepared:
4/9/2024
5. Available attendance forms:
Presence
6. Number of academic hours (total) / number of units (total):
15 practical hours + 15 theoretical hours / number of units 2
7-name of teacher class / Abu thair Said Mohsen
Abuthair.sm@ntu.edu.iq
8. Objectives of the course

Objectives of the academic subject	This course aims to study programs (Windows, Microsoft Word) and train the student to use its basics and tools that will serve the student for the coming years in all academic fields. And the process

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	1	Cognitive outputs	• The basics of	Reports, Assignments,	Blackboard PowerPoint

		Knowing what the Windows system is, its importance and its role in providing an ideal study environment for the student and the teacher at the same time	the system and its main tools. A detailed explanation of the desktop • The taskbar in Windows 2011.	oral and written theory exams	slides E-learning Conduct experiments laboratory
2	1		System settings Basic and how Change it accordingly the purpose	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	1		Study the properties of the calculator related to the existing system	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	1		- Discuss common mistakes And ways to deal with it	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	1	Pharmaceutical tests and their discussion and using it in the design processes And evaluate the prepared medicine -Acquiring the skill in writing scientific reports 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 (Personal.)	Pros and Cons the system	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	1		Windows 2011 system interface	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	1		Operational	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	1		A detailed explanation of the desktop and taskbar in the Windows 2011 operating system	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct

					experiments laboratory
9	1		Detailed explanation of lists the program	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	1		Linking the program to programs Other	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)	
Main references (sources)	
Recommended supporting books and references (scientific journals, reports,	- Windows 2011 Microsoft office 2010
Electronic references, Internet sites	**https://www.microsoft.com/software- download/windows11**

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:	
4/9/2024	
5. Available attendance forms:	
Presence	
6. Number of academic hours (total) / number of units (total):	
30 theoretical hours / number of units 2	
7- name of teacher class Anaam Ghani ali	
anaam.g@ntu.edu .iq	
8. Objectives of the course	
Objectives of the academic subject	1- The main goal is to give students the ability to deal with the concept To count, 2-Emphasizing the knowledge and skill required to perform duties and responsibilities. pharmacist efficiently. 3- Applying the concept of biostatistics applications in Medical field 4- Upon completion of the course, students will be able to understand statistics applications. This includes the medical field.
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 Life statistics Statistical concepts The concept of probability Arithmetic and counting techniques Poisson distribution Probability distribution The concept of measuring the focused tendency The derivative The derivative of trigonometric functions Integration	Statistical theory and its applications	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		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		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	For a continuous probability distribution	Reports, Assignments, oral and written	Blackboard PowerPoint slides E-

		qualification skills (other skills related to employability and To develop (Personal.)	and natural distribution Sample mean	theory exams	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:
4/9/2024
5. Available attendance forms:
Presence
6. Number of academic hours (total) / number of units (total):
30 theoretical hours / number of units 2
7-name of teacher class Ansam Hussein ali
Ansam.ha@ntu.edu.iq
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.

9. Teaching and learning strategies:

Education strategies	- Brainstorming strategy - Teamwork strategy - Discussion strategy
Learning	- Case study strategy - Inductive teaching strategy - Alpha maps strategy Himiya -

strategies	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, suffixes and prefixes related to science. Pharmaceuticals (natural medicine, pharmacy) clinical, pharmacology, (etc.) 3. Description of the important medical term for the condition: Natural. 4. Describe the important medical term for the two renal systems. And reproductive. 5. Description of the medical term Important for the digestive system. 6. Description of the important medical term used in Cardiovascular system. 7. Description of the important medical term in the field of disease. And treatment. 8. Description of the medical term. Important for growth and development. 9. Description of the important medical term in gynecology. Pregnancy and childbirth.	Basic word roots	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		Word roots, suffixes and prefixes	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2		Basic anatomical terms and abnormal conditions	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2		The genitals and urinary tract	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2		The gastrointestinal tract	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		The heart and cardiovascular system	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		Symptoms, diagnoses, treatments, communication qualifiers, and statistics.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

8	2	10. 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 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 (Personal.)	Growth and development	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		Gynecology	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		The eye	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)	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,	• Barbara A. Gylys, Regina M. Masters. Medical terminology simplified : a programmed learning approach by body systems; Latest edition.

	• Barbara Janson Cohen, Ann DePetris. Medical terminology : an illustrated guide; Latest edition • Pharmacy times (journal) Us pharmacist (journal)
Electronic references, Internet sites	• المكتبة الالكترونية لوزارة التعليم العالي • Pub med.gov & NCBI • موسوعة UpToDate الالكترونية

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:	
4/9/2024	
5. Available attendance forms:	
Presence	
6. Number of academic hours (total) / number of units (total):	
30practical hours + 30 theoretical hours / number of units 4	
7- name of te acher class / saif Hasaan ali	
Saif.ha1981@gmail.com	
8. Objectives of the course	
Objectives of the academic subject	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 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.

9. Teaching and learning strategies:

Education strategies Learning strategies	Graduates must be able to: 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 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.

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 ingeneral 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		,Basic Structures	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct

		- Knowing everything related to the effects of therapeutic and offending drugs and contraindications for their use. - How to treat the patient Educating him about his health Acquiring skills - How to work and meet Seminars and qualitative lectures - Education skill Medication for patients - Extraction skill Required information From its sources approved Emotional outputs And value - thinking skills through translation and analysis Evaluate and extract Ideas - Implanting moral values To deal correctly with Patients Transferable general and qualification skills (other skills related to employability and personal development.			experiments laboratory
4	2		Skeleton bones and joints	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2		Epithelial tissue&	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		Circulatory system: Location of vascular system (Heart, Arteries, Veins)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		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		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		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,	Reports, Assignments, oral and written	Blackboard PowerPoint slides E-

			Trachea Bronchus & Bronchioles). - Respiratory portion (lung) Nervous system: Central & Peripheral nervous system by location	theory exams	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 &Wilinks
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 5thedn. 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:
4/9/2024
5. Available attendance forms:
Presence
6. Number of academic hours (total) / number of units (total):
30practical hours + 30 theoretical hours / number of units 4
7- name of teacher class Sadeem zeki
Sadeem.z@ntu.edu.iq
8. Objectives of the course

Objectives of the academic subject	Accounts include pharmaceutical materials, preparations, compositions and prescriptions. - Knowledge of the biological factors of pharmaceutical materials. - Teaching pharmaceutical calculations for dilution and concentration of saline liquid solutions. Electrolytes and intravenous solutions.

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 1- How to prepare various forms Pharmaceutical. 2-Learning using different scientific techniques 3-Knowing the various benefits and harms of each pharmaceutical form . 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 Acquiring skills -Preparing designs Modern to install The medicine and how to prepare it Pharmaceutical tests and their discussion and using it in the	• Dilution pharmaceutical preparation • Demonstration of different glas s wares and equipment's used in the field of pharmacy.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		• Dilution of pharmaceutical preparation. Pharmaceutical measurements	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2		• Dilution of pharmaceutical preparation. (cont) Pharmaceutical measurements	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2		• Concentration of pharmaceutical	Reports, Assignments, oral and written theory	Blackboard PowerPoint slides E-learning

		design processes And evaluate the prepared medicine -Acquiring the skill in writing scientific reports 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 (Personal.)	Preparations Volume measurements	exams	Conduct experiments laboratory
5	2		• Isotonic solutions Preparation of aromatic waters	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		• Isotonic solutions Preparation of simple solutions	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		• Isotonic solutions(cont) Preparation of simple solutions(cont)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		• Electrolyte solutions 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:
4/9/2024
5. Available attendance forms:
Presence
6. Number of academic hours (total) / number of units (total):
30practical hours + 30 theoretical hours / number of units 4
7-teacher of name class : Dr Nadia yosef

nadia.ys@ntu.edu.iq
8. Objectives of the course

Objectives of the academic subject	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 Alkanes, alkenes, alkynes, and the study of stereochemistry.

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 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	• Introduction. Determination of melting point (Known sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		• Dilution of pharmaceutical preparation. Pharmaceutical measurements	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2		• Dilution of pharmaceutical preparation. (cont) Pharmaceutical measurements	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

		their effects from Testing 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 (Personal.)			
4	2		• Alkanes Determination of melting point (quiz and unknown). .	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2		• Alkynes. Elemental analysis (known quantity and quality sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		• Dienes. Solution and filtration techniques (explanation of basic concepts).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		• Stereochemistry I Re-crystallization (known sample)..	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		• Stereochemistry II Re-crystallization (quiz and unknown sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		• Alcohols Extraction technique (known sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		• ethers.	Reports, Assignments, oral and	Blackboard PowerPoint slides E-

			Extraction technique (quiz and unknown).	written theory exams	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:
4/9/2024
5. Available attendance forms:
Presence

6. Number of academic hours (total) / number of units (total):
30practical hours + 30 theoretical hours / number of units 4
7-name of teacher class/ fahad ibrahim
Fahad.is@ntu.edu.iq
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

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 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	Introduction to Bacterology and classification, Morphology, Cell stractures	Reports, Assignments, oral and written theory exams	Blackboard 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	Blackboard PowerPoint slides E-learning

		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 (Personal.)		exams	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 exams	Blackboard PowerPoint slides E-learning 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	Daily Science

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:
4/9/2024

5. Available attendance forms:
Presence
6. Number of academic hours (total) / number of units (total):
30practical hours + 30 theoretical hours / number of units 4
7-name of class teacher / dr ansam hussien ali
ansam.ha@ntu.edu.iq
8. Objectives of the course

Objectives of the academic subject	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 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

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 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 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 (Personal.)	**<u>Practical Part</u>** • Introduction and Demonstration of some laboratory equipment's. 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			Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2		**B)** Synaptic transmission: **<u>Practical Part</u>** Experiment of Cardiovascular responses(CVR) to exercises.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2		• Respiration **A)** Respiratory zones; **<u>Practical Part</u>** Measurement of arterial blood pressure in different positions_ supine & standing positions.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		**B)** Gas transport between the lungs and tissues;	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		**<u>Practical Part</u>** 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		• **A)** Introduction of renal Physiology:	Reports, Assignments, oral and written theory	Blackboard PowerPoint slides E-learning

			Practical Part Experiment of Clinical Thermometry (body temperature) Part 2.	exams	Conduct experiments laboratory
9	2		• **B)** Tubuloglomerular feedback and glomerulotubular balance; **Practical Part** Experiment of Triple response.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		• Cardiovascular System: **Practical Part** Experiment of Lung Functions Test Part 1.	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. 14ed, 2022.** **2) Ganong's Review of Medical Physiology. 25ed, 2016.** **Ganong's Review of Medical Physiology. 26ed, 2019.**
Main references (sources)	**1) Guyton and Hall: Textbook of Medical Physiology. 14ed, 2022.** **2) Ganong's Review of Medical Physiology. 25ed, 2016.** **Ganong's Review of Medical Physiology. 26ed, 2019.**
Recommended supporting books and references (scientific journals, reports,	**1) Human Physiology ''An integrated Approach''. 15ed, 2014.** **Essentials of Human Physiology for Pharmacy. Laurie Kelly, McCorry. 2nd, (2008).**
Electronic references, Internet sites	**www.physiologyplace.com**

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:
4/9/2024
5. Available attendance forms:
Presence
6. Number of academic hours (total) / number of units (total):
30 theoretical hours / number of units 2
7- name of teacher class / Sadeem abdullah
Sadeem.aa2025@gmail.com
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

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 Acquiring skills composition and the method of preparing it discussing them, and seeking help Emotional outputs And value - thinking skills through translation Analyze, evaluate and extract Ideas - implanting values Ethical principles of	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 experiments laboratory
2	2			Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

3	2	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		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	Blackboard PowerPoint slides E-learning

				exams	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)	**Public freedoms and democracy / Al-Mustansiriya University lectures /University of Tikrit**
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:
4/9/2024
5. Available attendance forms:
Presence
6. Number of academic hours (total) / number of units (total):
30 theoretical hours / number of units 2
7- name of teacher class / Sadeem abdullah
Sadeem.aa2025@gmail.com
8. Objectives of the course

Objectives of the academic subject	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. 2- Introducing students to the types of crimes and their countless numbers. 2- Educating the rising generations about the twisted ways of the tyrannical Baath administration system. 3- Study the motives behind carrying out Baath crimes against the people. 4- Study the political, administrative and military path of the Baath Party.

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 Acquiring skills composition and the method of preparing it discussing them, and	**Basic terms**	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments

		seeking help Emotional outputs			laboratory
2	2	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 (Personal.)		Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2			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	Blackboard PowerPoint slides E-

				written theory exams	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:
4/9/2024
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
7-name of teacher class / aya sami ahmed
Aya.sa22a@gmail.com
8. Objectives of the course

Objectives of the academic subject	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 It is diagnosed through several types of chromatography and their applications.

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 Identification of the most important medicinal plants	**General Introduction: The Scope of Pharmacognosy, definitions and basic principles**	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments

		- 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. - 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. 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 patients Transferable general and qualification skills (other skills related to employability and To develop (Personal.)			laboratory
2	2		Drugs from natural sources, crud drugs, official and non- official drugs.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2		Classification of natural products	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		Pharmacological activities of natural .products	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2			Reports,	Blackboard

			Chemistry of natural .drug products	Assignments, oral and written theory exams	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)

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:	
4/9/2024	
5. Available attendance forms:	
Presence	
6. Number of academic hours (total) / number of units (total):	
30 theoretical hours / number of units 2	
7-name of teacher class / Sadeem abdulla	
Sadeem.aa2025@gmail.com	
8. Objectives of the course	
Objectives of the academic subject	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. 2-Learning about Arabic culture and its huge heritage. 3- Study some famous literary texts and pieces in literature. Arabic. 4- Study the rules of proper writing and dictation.
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 - That the student knows the meaning of the language in the dictionary and wrote The term. - Knowing how to compose The sentence in the language Arabic. - Introducing the students Using the integer base in Arabic. - Introducing the students to one The most important methods of Arabic. Emotional outputs And value - expressing feelings and thoughts in the fewest words. And the best way.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 (Personal.)	**Language is human identity.**	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		Sentence construction.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2		Number rules.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2		Conditional style in Arabic.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2		Dictating and writing.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		Punctuation marks.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		Arabic calligraphy.	Reports, Assignments, oral and	Blackboard PowerPoint slides E-

				written theory exams	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 -

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:
4/9/2024
5. Available attendance forms:
Presence
6. Number of academic hours (total) / number of units (total):
30practical hours + 30 theoretical hours / number of units 4
7-name of teacher class ibtihal sufian
Ebtehal.sufyin@ntu.edu.iq
8. Objectives of the course

Objectives of the academic subject	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 The small one. 2- Introducing third-year students to carbohydrates and proteins. And fats, in addition to nucleic acids, enzymes, and vitamins. 3- Identifying the types of enzymes and their inhibitors (enzyme kinetics).

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. 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. Emotional outputs And value - expressing feelings and thoughts in the fewest words. And the best way.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 (Personal.)	• Introduction to the macromolecules biochemistry: Definitions and terms; Carbohydrate, proteins, enzymes, DNA, Clinical value. Color reactions of	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		• Amino acids: Structures of A.A (table of standard A.A abbreviation and side chain); classification, properties, isomerism.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2		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		• Carbohydrates: Chemistry and classification	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2		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		Classification of carbohydrates according to reducing properties: Iodine test; Ozasone test.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

7	2		• 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.	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		• Enzyme inhibition: Reversible inhibitors, competitive and non competitive inhibition, mixed- type inhibition, Irreversible inhibition. Inhibition kinetics and binding affinities (ki), questions and solutions.	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)	- Lehninger PRINCIPLES OF BIOCHEMISTRY Fourth Edition 2004 Lippincotts Illustrated Reviews Biochemistry - 3rd edition 2004
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:	
4/9/2024	
5. Available attendance forms:	
Presence	
6. Number of academic hours (total) / number of units (total):	
30practical hours + 30 theoretical hours / number of units 4	
7-nname of teacher class Ghassan saoud	
Ghasaan.sa89@gmail.com	
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
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. 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. Emotional outputs And value - expressing feelings and thoughts in the fewest words. And the best way.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 (Personal.)	• Drug distribution. • Preparation and standardization of 0.1N KMnO4 • (known sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		• Acid- base properties. Preparation and standardization of 0.1N KMno4 (quiz and unknown).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2		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		• QSAR models. 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		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		• Drug receptor interaction: force involved.	Reports, Assignments, oral and written theory	Blackboard PowerPoint slides E-learning

			Assay of ferrous sulfate (unknown sample).	exams	Conduct experiments laboratory
7	2		• Steric features of drugs. • Preparation and standardization of 0.1Na2S2O4 solution (known sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		• Optical isomerism • Preparation and standardization of 0.1Na2S2O4 solution (quiz and unknown sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		• biological activity. Assay of copper sulfate (known sample).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
10	2		• Calculated conformation. 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:
4/4/2024
5. Available attendance forms:
presence
6. Number of academic hours (total) / number of units (total):
30practical hours + 30 theoretical hours / number of units 4
7-name of teacher class Bilal Hussein
Bili95ha@gmail.com
8. Objectives of the course

Objectives of the academic subject	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 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 Identify side effects and contraindications for commonly used involuntary medications.

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. - Knowledge of dynamics Basic pharmacokinetics (effects and mechanism) and clinical pharmacokinetics required for	General introduction to • Pharmacology and Pharmacokinetics.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		Continue Pharmacokinetics Drug	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

3	2	prescription Safe and effective. - Knowing the interactions Harmful drugs, interactions and abuse problems Use and management 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 Transferable general and qualification skills (other skills related to employability and To develop (Personal.)	Receptor interaction and Pharmacodynamics	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
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		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. β- 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 β- lactam and other cell wall synthesis inhibitor antibiotics.	Reports, Assignments, oral and written theory	Blackboard PowerPoint slides E-learning

				exams	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)	- Goodman & Gilman's The Pharmacological Basis of Therapeutics 13th edition 2018. - Basic & Clinical Pharmacology 14th Edition 2018 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:
4/9/2024
5. Available attendance forms:
Presence
6. Number of academic hours (total) / number of units (total):
30 theoretical hours / number of units 2
7- name of teacher class / anam Ghani
Anaam.ga@ntu .edu.iq
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.

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 1-How to work Patients. 2-Learning using different scientific techniques 3- Improving interaction With various ethical issues What the pharmacist faces in the market Work.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 (Personal.)	• Introduction to Pharmacy Ethics (Theoretical considerations).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		Law and Ethics	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2			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	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

5	2		TheCommon 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 Practice Autonomy, Honesty	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		Common Ethica l Considerations in Pharmaceutical Care Practice Informed Consent, Confidentiality, Fidelity ……).	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		TheCommon 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)	• Robert J. Cipolle, Linda M. Strand, Peter C. Morley. Pharmaceutical Care Practice: The Clinician's Guide, 2nd Edition. • Robert m. Veatch and Amy Haddad. Case Studies in Pharmacy Ethics. second edition. 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:
4/9/2024
5. Available attendance forms:
presence
6. Number of academic hours (total) / number of units (total):
30 theoretical hours / number of units 2
7-name of teacher class Mohammed abid

Mohammed94a@gmail.com	
8. Objectives of the course	
Objectives of the academic subject	To study the principle of exposure to toxic chemicals and physical elements 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 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 and compounds Toxic.
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 Discussing them and using them in the drug design and formulation processes and how toInhibiting the	• Introduction: General considerations. •	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		• Host factor, environmental • Toxic effect factors •	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

3	2	action of toxic substances . 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 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 Prepared medicine - acquiring the skill in writing scientific reports .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 (Personal.)		Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2		Introduction to toxic materials Public	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2		Toxic carcinogenic substances	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		Introduction to using the devices Scientific laboratory	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		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		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	Blackboard PowerPoint slides E-learning

				exams	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

12 . Learning and teaching resources	
Required prescribed books (methodology) found)	**Casarett and Doull, Toxicology**
Main references (sources)	**the Basic Science of Poisons; latest edition**
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:
4/9/2024

5. Available attendance forms:
Presence
6. Number of academic hours (total) / number of units (total):
30practical hours + 30 theoretical hours / number of units 4
7-name of teacher class/ anwar sabah
Anwar86sk@gmail.com
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.

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. Acquiring skills - preparing modern designs for drug composition and methods Preparing it - Analyzing the results of pharmaceutical	• Principles of pharmaceutical processing; Introduction in industrial pharmacy and pre-formulation.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		. • Mixing; fluid mixing; flow characteristics	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

3	2	tests, discussing them, and using them in In the design and evaluation processes Prepared medicine - acquiring the skill in writing scientific reports .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 (Personal.)	Effervescent granules: Preparation and characterization	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2		• Milling; pharmaceutical application Flow properties and rheology of granules.	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2		• Size measurement methods; Flow properties and rheology of granules(cont)	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
6	2		• Drying: definition; purpose; humidity measurement Tablet dosage form: Preparation and characterization	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
7	2		• Theory of drying Tablet dosage form: Preparation and characterization	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
8	2		• Theory of drying (cont) Review and tutorial	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
9	2		• Clarification and filtration. 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)	**The Theory and Practice of Industrial Pharmacy by Leon Lachman et al**
Main references (sources)	Aulton's Pharmaceutics The Design and Manufacture of Medicines
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	**BNF,BP and USP**

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:

4/9/2024
5. Available attendance forms:
Presence
6. Number of academic hours (total) / number of units (total):
number of units 1
7-name of teacher class / Neran thair
Neran.tk@ntu.edu.iq
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.

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 Simple, common occurrence in society 3- How to treat the patient Educating him about health 4- Educating the student scientifically	Basic principles and introduction to community health	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
2	2		The first Medical cases - Digestive system - Part Two	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory

		In his specialty 5- How to conduct and give seminars and lectures Quality .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 (Personal.)			
3	2		General review and discussion for previous lessons	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2		Basic principles and introduction to epidemiology	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
5	2		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	Blackboard PowerPoint slides E-learning

				exams	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)	**The Theory and Practice of Industrial Pharmacy by Leon Lachman et al**
Main references (sources)	Aulton's Pharmaceutics The Design and Manufacture of Medicines
Recommended supporting books and references (scientific journals, reports,	
Electronic references, Internet sites	**BNF,BP and USP**

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:
4/9/2024
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
7- name of teacher class / sirij zeyad
Serij95z@gmail.com
8. Objectives of the course

Objectives of the academic subject	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. 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. 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.

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 - determining the appropriate medication For every medical condition - know everything related to it. By the effects of medications .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 (Personal.)	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		Chronic kidney failure	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
3	2		Fluid and electrolyte disturbances in the body	Reports, Assignments, oral and written theory exams	Blackboard PowerPoint slides E-learning Conduct experiments laboratory
4	2		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	Blackboard PowerPoint slides E-

				written theory exams	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 Edittion
Main references (sources)	- Roger Walker, Clive Edwards (eds), - Clinical Pharmacy & Therapeutics , Barbara G.Wells & Joseph T. Diriro, Pharmacotherapy hand book 7th Edittion
Recommended supporting books and references (scientific journals, reports,	British National Formulary
Electronic references, Internet sites	FDA