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

Academic Program and Course Description Guide

2024

Introduction:

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

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

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

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

Concepts and terminology:

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

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

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

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

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

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

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

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

Academic Program Description Form

University Name: Tikrit University

Faculty/Institute: College of Pharmacy

Scientific Department: Clinical Laboratory Sciences department

Academic or Professional Program Name: Bachelor in Pharmacy Sciences

Final Certificate Name: Bachelor in Pharmacy Sciences

Academic System: - Semester system

Description Preparation

Date:10/3/2024

File Completion Date:24/3/2024

Signature:

Head of Department Name:

Lect .Dr. Sarwa Azeez Khalid

Date:27/3/2024

Signature:

Scientific Associate Name:

Lect. Dr. Ali Hussain Abbas

Date:27/3/2024

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Nashwan Ahmed Sumait

Date:27/3/2024

Signature:

Approval of the Dean
Lect. Dr. Ali Hussain Abbas

1. Program Vision

Program vision is written here as stated in the university's catalogue and website.

1- It aspires to be progenitor in term of academic level and scientific creativity of student.
2- Introducing students to the most important recent developments in term of techniques in laboratory diagnosis and giving graduates the ability to deal with the results of the analyzed in all departments of health institution .

2. Program Mission

Program mission is written here as stated in the university's catalogue and website.

Implementation of modern scientific developments to sustain comprehensive .

3. Program Objectives

General statements describing what the program or institution intends to achieve.

1-Training students to conduct medical laboratory analyzes using latest means and scientific methods .
2- The student must be able to apply his skills to ensure community service .
3- Developing students scientific abilities and using them in multiple medical fields .

4. Program Accreditation

Does the program have program accreditation? And from which agency?

None currently available

5. Other external influences

Is there a sponsor for the program?

None currently available

6 Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews•
Institution Requirements	3	5	2.7%	Basic Course

College Requirements	61	180	97.3%	Basic Course
Department	---	---	---	Basic Course
Requirements	---	---	---	Pass
Summer Training	---	---	---	---

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
First year / first semester	111	Human biology	2	2
First year / first semester	115	Mathematics and medical statistics	3	-
First year / first semester	114	Computer science	2	2
First year / second semester	129	Medical physics	2	2
First year / first semester	127	Human anatomy	2	2
First year / second semester	114	Computer science		2
First year / first semester	1271	Histology	2	2
Second year / first semester	212	Medical Microbiology I	3	2
Second year / first semester	114	Computer science	-	2
Second year / second semester	227	Medical microbiology II	3	2
Third year / first semester	314	Bio-chemistry I	3	2
Third year / first semester	315	Pathology	3	2
Third year / second semester	329	Bio-chemistry II	3	2
Fourth year / first semester	415	Public health	2	-
Fifth year / first semester	514	Clinical chemistry	3	2
Fifth year / first semester	521	Lab training	-	4
Second year / first semester		Crimes Ba'ath Party	2	-
First year / first semester		human rights and Democracy	2	-
First year / first semester		English language	2	-
Second year / second semester		Arabic language	2	-

8. Expected learning outcomes of the program

A1- Follow up on developments in techniques used in clinical chemistry as well as in molecular diagnostics
A2- It provides students with the knowledge, skills and efforts required to work in diagnosing diseases through laboratory tests
A3- Understand the basics of biochemistry.

Skills

B 3- Diagnosing diseases by detecting the causative factors.

B4- Use appropriate antibiotics in treatment according to the laboratory result report.

B 5- Emphasis on the knowledge and skills required to efficiently perform the duties and responsibilities of a pharmacist

B9- Upon completing the course, students will be able to understand the applications of statistics

Ethics

C1. Develop the student's ability to discuss
C2. Actual application with existing capabilities
C3. Develop the student's ability to take advantage of the available means
C4. Develop the student's ability to perform daily duties

9. Teaching and Learning Strategies

- Theoretical and practical lectures
- Classroom
-power point
-- Frequent visits to teaching hospitals

10. Evaluation methods

-Theoretical exams
- Practical lab exams
-Reports
- Homework
- extracurricular activities
- Quiz

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	**Lecturer**
Assistance professor	3	-			3	
Lecturer	4	2			6	
Assistance lectures	5	3			8	

Professional Development

Mentoring new faculty members

-Directing teachers to organize seminars, courses, and give scientific lectures periodically.

- Directing teachers to publish scientific research in their field of specialization in reputable journals

- Directing teachers to participate in local and international scientific conferences

Professional development of faculty members

Participation in academic courses concerned with various fields of education

- Participation in curriculum development.

- Active participation in scientific conferences

- Motivating the teacher to use various teaching methods for students.

12. Acceptance Criterion

Admission is made within the central admission criteria of the Ministry of Higher Education and Scientific Research.

13. The most important sources of information about the program

The college website, the college guide, the university website, the college page on social media sites, in addition to professional institutions (the Iraqi Pharmacists Syndicate) and the Ministry of Higher Education and Scientific Research

14. Program Development Plan

- Updating and developing curricula according to the requirements of the labor market
- Successfully use contemporary technology applications and master conducting experiments
- Providing volunteer activities
- Directing students' research towards applied projects that address societal problems

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First year / first semester	Human biology	111	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	Computer science		Basic	√	√	√	√	√	√	√	√	√	√	√	√
	Mathematic and Statistics	115	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	English language			√	√	√	√	√	√	√	√	√	√	√	√
	human rights and Democracy		Basic	√	√	√	√	√	√	√	√	√	√	√	√
First year / second semester	**Human anatomy**	127	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	Computer Science		**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	Medical physics	129	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	Histology	1271	Basic	√	√	√	√	√	√	√	√	√	√	√	√
Second year / first semester	Medical microbiology I	212	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	Computer Science		Basic	√	√	√	√	√	√	√	√	√	√	√	√
	Democracy		Basic	√	√	√	√	√	√	√	√	√	√	√	√
	Crimes Ba'ath Party		Basic	√	√	√	√	√	√	√	√	√	√	√	√
Second year / second semester	Medical microbiology II	227	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	Arabic language		Basic	√	√	√	√	√	√	√	√	√	√	√	√
	Computer Science		Basic	√	√	√	√	√	√	√	√	√	√	√	√
Third year / first semester	Biochemistry I	314	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	Pathophysiology	315	Basic	√	√	√	√	√	√	√	√	√	√	√	√

Third year / second semester	Biochemistry II	329	Basic	√	√	√	√	√	√	√	√	√	√	√	√	√
Fourth year / first semester	Public health	415	Basic	√	√	√	√	√	√	√	√	√	√	√	√	√
Fifth year / first semester	Clinical Chemistry	514	Basic	√	√	√	√	√	√	√	√	√	√	√	√	√
	Clinical laboratory training	515	Basic	√	√	√	√	√	√	√	√	√	√	√	√	√

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

Course Description Form

1. Course Name:
Human biology
2. Course Code:
111
3. Semester / Year:
First / First
4. Description Preparation Date:
10/3/2024
5. Available Attendance Forms:
Theoretical lectures in classroom and practical lectures in specialized lab
6. Number of Credit Hours (Total) / Number of Units (Total)
Two hours /week (theory) and two hours/ week (practical) – 3 units
7. Course administrator's name (mention all, if more than one name)
Name: Email:
8. Course Objectives

Course Objectives : The study of human body composition, types of cell structures, types of tissues, bones, skeleton, joints, and muscles as well as nutrition. Human biology is also explained in details of the various body systems, and human genetics. At the end of the course the student should be able to describe human body composition, body structure and function, and human genetics such as Mendelian inheritance, chromosomal division.	....

9. Teaching and Learning Strategies	
Strategy	Theoretical and practical lectures Daily assignments
10. Course Structure	

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Theory exam reports homework	smart board classroom	definition of Biology	Introduction	2	1
Theory exam reports homework	smart board classroom	cell division	The Cell	2	2
Theory exam reports homework	smart board classroom	Type . Occupation . distribution	Texture. Bone. cartilage	2	3
Theory exam reports homework	smart board classroom	Central and Peripheral	Nervous system	2	4
Theory exam reports homework	smart board classroom	vitamins and minerals	nutrition	2	5
Theory exam reports homework	smart board classroom	The mouth. Esophagus. stomach	Digestive	2	6
		Exam 1			7
Theory exam reports homework	smart board classroom	Small and large intestine	Digestive	2	8
Theory exam reports homework	smart board classroom	types of glands	Excretory and respiratory system	2	9
Theory exam reports homework	smart board classroom	Chromosomes and semi-lethal genes	human genetics	2	10
Theory exam reports	smart board classroom	Layers Occupation. Glands. the	Skin	2	11

homework		disease			
Theory exam reports homework	smart board classroom smart board classroom	Part of the rotating device. Arteries, veins, and blood composition	Rotary system	2	12
Theory exam reports homework	smart board classroom	Inflammation and immunity to diseases	Immunity	2	13
		Exam 2			

Course Description Form

1. Course Name:
Mathematic and Statistics
2. Course Code:
115
3. Semester / Year:
First / First
4. Description Preparation Date:
10/3/2024
5. Available Attendance Forms:
Theoretical lectures in classroom
6. Number of Credit Hours (Total) / Number of Units (Total)
Three hours / week (theory) – 3 units
7. Course administrator's name (mention all, if more than one name)
Name: Email:
8. Course Objectives

Course Objectives : It gives students the ability to deal with the concept of mathematics and statistics, emphasizes the knowledge and skills required to efficiently perform the duties and responsibilities of a pharmacist. The student deals with the concept of basic mathematics and the application of biostatistics in the medical field.	• • • ….. ….. …..
9. Teaching and Learning Strategies	
Strategy	Theoretical lectures Daily assignments
10. Course Structure	

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Theory exam reports homework	smart board classroom	General principles The plan includes shapes	Mathematics general principles The plan includes shapes. Inequality. Absolute values. Multiples	3	1
Theory exam reports homework	smart board classroom	Functions and inclination	Functions and fees. Mutual slope functions and line equations	3	2
Theory exam reports homework	smart board classroom	Determinants and integration	Determinant and Integration Determinant Theorems and Conditions of Integration	3	3
Theory exam reports homework	smart board classroom	Derivative and Trigonometric Functions	Line tangent deviation and derivatives. Discrimination rules	3	4
Theory exam reports homework	smart board classroom	Integration concept	Integration: Indefinite integration. The rules of integrals are indefinite. Integration Formulas for the Basic Trigonometric Function	3	5
Theory exam reports homework	smart board classroom	...	Properties of specific integrals. exercise	3	6
		Exam 1			7
Theory exam reports homework	smart board classroom	General concept of statistics possibility	Biostatistics: General Concepts of Statistics; Statistical methods Probability concepts: properties of probability	3	8
Theory exam reports homework	smart board classroom	Poisson distribution	The probability distribution of a discrete variable. binomial distribution,	3	9

			Poisson distribution		
Theory exam reports homework	smart board classroom	.....	Continue Probability Distribution and Normal Distribution, Review Questions and Exercises	3	10
Theory exam reports homework	smart board classroom	Central tendency	The concept of central tendency: the mean of the sample and the average of the ;population. middle	3	11
Theory exam reports homework	smart board classroom	skew and volatility	Deviations and difference: deviation. Dispersion and contrast. standard deviation and variance	3	12
Theory exam reports homework	smart board classroom	Variation coefficient. standard error. Correlation analysis	Variation coefficient. standard error. Correlation analysis. (Regression model and regression equation model	3	13
Theory exam reports homework	smart board classroom	Statistics tests	T-test, Z-test, chi-test and ANOVA	3	14
Theory exam reports homework	smart board classroom	.....	Statistics application in the medical field. Review questions .and exercises	3	15
		exam 2			

Course Description Form

1. Course Name:
Computer Science
2. Course Code:

3. Semester / Year:
First / First
4. Description Preparation Date:
10/3/2024
5. Available Attendance Forms:
practical lectures in specialized lab
6. Number of Credit Hours (Total) / Number of Units (Total)
Two hours / week – one units
7. Course administrator's name (mention all, if more than one name)
Name: Email:
8. Course Objectives

Course Objectives gives students the ability to deal with the concept of computer science, and emphasizes the knowledge and skills required to efficiently perform the duties and responsibilities of a pharmacist. The course deals with the basic concept of computer and its application in human life and the medical field. Upon completion of the course students will be able to understand computer terms and acronyms used to describe the lecture, and the different programming languages:	• • •

9. Teaching and Learning Strategies

Strategy	Practical lectures Daily assignments

10. Course Structure

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Practical exam and class efficacy	Data show +Classroom	Workspace google	Introduction to classroom	2	1
Practical exam and class efficacy	Data show +Classroom	Microsoft word and Doc google	file ، Home	2	2
Practical exam and class efficacy	Data show +Classroom	Microsoft word and Doc google	Insert tab	2	3
Practical exam and class efficacy	Data show +Classroom	Microsoft word and Doc google	Layout Tab	2	4
Practical exam and class efficacy	Data show +Classroom	Microsoft word and Doc google	References Tab	2	5
Practical exam and class efficacy	Data show +Classroom	Microsoft word and Doc google	Mailings Tab	2	6
Practical exam and class efficacy	Data show +Classroom	Microsoft word and Doc google	Review Tab	2	7
Practical exam and class efficacy	Data show +Classroom	Microsoft word and Doc google	View Tab	2	8
Practical exam and class efficacy	Data show +Classroom	Microsoft PowerPoint and Slide google	Introduction to Microsoft PowerPoint (File and Home Tab , Insert tab	2	9
Practical exam and class efficacy	Data show +Classroom	Microsoft PowerPoint and Slide google	Design	2	10
Practical exam and class efficacy	Data show +Classroom	Microsoft PowerPoint and Slide google	Transition Tab	2	11

Practical exam and class efficacy	Data show +Classroom	Microsoft PowerPoint and Slide google	Animation Tab	2	12
Practical exam and class efficacy	Data show +Classroom	Microsoft PowerPoint and Slide google	Slide View	2	13
		Exam 1 theoretical and practical			
Course Structure: Computer Science, 1st year / 2nd semester					
Practical exam and class efficacy	Data show + Electronic classroom	Microsoft Excel and Google Sheet	Introduction to Microsoft Excel	2	1
Practical exam and class efficacy	Data show + Electronic classroom	Microsoft Excel and Google Sheet	Insert	2	2
Practical exam and class efficacy	Data show + Electronic classroom			2	3
Practical exam and class efficacy	Data show + Electronic classroom	Microsoft Excel and Google Sheet	Page Layout	2	4
Practical exam and class efficacy	Data show + Electronic classroom			2	5
Practical exam and class efficacy	Data show + Electronic classroom	Microsoft Excel and Google Sheet	Formula	2	6
Practical exam and class efficacy	Data show + Electronic classroom	Microsoft Excel and Google Sheet	formula errors in Excel	2	7
Practical exam and class efficacy	Data show + Electronic classroom	Microsoft Excel and Google Sheet		2	8
Practical exam and class efficacy	Data show + Electronic classroom		Data Analysis	2	9
Practical exam and class efficacy	Data show + Electronic classroom	Microsoft Excel and Google Sheet	How to add Data Analysis	2	10
Practical exam and class efficacy	Data show + Electronic classroom	Microsoft Excel and Google Sheet	T-test one sample	2	11
Practical exam and class efficacy	Data show + Electronic classroom	Microsoft Excel and Google Sheet	T-test paired	2	12

Practical exam and class efficacy	Data show + Electronic classroom	Microsoft Excel and Google Sheet	T- test Independent	2	13
		Exam 2 theoretical and practical			

Course Description Form

1. Course Name:
Human anatomy
2. Course Code:
127
3. Semester / Year:
Second / First
4. Description Preparation Date:
10/3/2024
5. Available Attendance Forms:
Theoretical lectures in classroom and practical lectures in specialized lab
6. Number of Credit Hours (Total) / Number of Units (Total)
One hours/ week (theory) and two hours / week (practical) – 2 units .....
7. Course administrator's name (mention all, if more than one name)
Name: Email: .....
8. Course Objectives

Course Objectives : The study of the position of various organs in the chest and abdominal cavity including: the digestive system, the circulatory system, the lymphatic system, the respiratory system, the urinary system, the reproductive system, the endocrine system, and the nervous system.	• • •

9. Teaching and Learning Strategies	
Strategy	Theoretical and practical lectures Daily assignments
10. Course Structure	

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Theory exam reports homework	smart board classroom	Location of the vascular system (heart, arteries and veins)	Circulatory system	1	1
Theory exam reports homework	smart board classroom	Location of the lymphatic system (lymphatic capillary)	Circulatory system	1	2
Theory exam reports homework	smart board classroom	Location (thymus gland, spleen and lymph nodes)	Lymphatic tissue	1	3
Theory exam reports homework	smart board classroom	Lymphatic nodules and tonsils	Lymphatic tissue	1	4
Theory exam reports homework	smart board classroom	Central and Peripheral Nervous System	Nervous system	1	5
Theory exam reports homework	smart board classroom	Connecting part (nose, nasopharynx, trachea, bronchi and bronchioles) lung breathing (part	Respiratory system	2	6
		Exam 1		1.5	7
Theory exam reports homework	smart board classroom	The location of the different parts of the gastrointestinal tract (GIT) (oral cavity, mouth, esophagus and stomach). Small intestine, large intestine, rectum and anus. Glands associated with the digestive	Digestive	3	8

		system by location (salivary glands, pancreas, liver and gallbladder)			
Theory exam reports homework	smart board classroom	Location of the adrenal gland, thyroid gland, thyroid gland, islets of Langerhans and pineal glands. pituitary gland site	Glandular system	1	9
Theory exam reports homework	smart board classroom	Excretory gonads (seminal vesicles, prostate and Cooper's glands) Genital excretory ducts. The location of the testicles	male reproductive system	2	10
Theory exam reports homework	smart board classroom	Location of the ovary, oviduct, uterus and vagina	female reproductive system	2	11
Theory exam reports homework	smart board classroom	The site of (kidneys and nephrons), the site of (ureters, bladder and .urethra)	Urinary tract	1	12
		Final exam			13

Course Description Form

1. Course Name:
Histology
2. Course Code:
1271
3. Semester / Year:
Second / First
4. Description Preparation Date:

10/3/2024
5. Available Attendance Forms:
Theoretical lectures in classroom and practical lectures in specialized lab
6. Number of Credit Hours (Total) / Number of Units (Total)
Two hours / week (theory) and Two hours / week (practical) – 3 units
7. Course administrator's name (mention all, if more than one name)
Name: Email:
8. Course Objectives

Course Objectives : This science is concerned with the study of the histological structure of the human body, as well as primarily aims to give the student a basis for advanced study in the field of health care, physiology, pathology, and fields related to health and fitness. At the end of the course, the student should be familiar with the histological description of the human body in a way that corresponds to what was previously studied.	• • •
9. Teaching and Learning Strategies	
Strategy	Theoretical and practical lectures Daily assignments
10. Course Structure	

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Theory exam reports homework	smart board classroom	Location of the vascular system (heart, arteries and veins)	Circulatory System	1	1
Theory exam reports homework	smart board classroom	Location of the lymphatic system (lymphatic capillary)	Circulatory System	1	2
Theory exam reports homework	smart board classroom	Location (thymus gland, spleen and lymph (nodes	lymphatic tissue	1	3
Theory exam reports homework	smart board classroom	Lymphatic nodules and tonsils	lymphatic tissue	1	4
Theory exam reports homework	smart board classroom	Central and Peripheral Nervous System by Location	Nervous system	3	5
Theory exam reports homework	smart board classroom	Connecting part (nose,nasopharnx, trachea, bronchi and bronchioles) Lung breathing part	Nervous system	3	6
		Exam 1		1,5	7
Theory exam reports homework	smart board classroom	The location of the different parts of the gastrointestinal tract (GIT) (oral cavity, mouth, esophagus and stomach). Small intestine, large intestine, rectum and anus. Glands associated with	Digestive	3	8

		the digestive system by location (salivary glands, pancreas, liver and gallbladder)			
Theory exam reports homework	smart board classroom	Glands associated with the digestive system (salivary glands, pancreas, liver, and gallbladder)	Digestive	1	9
Theory exam reports homework	smart board classroom	General physiological histological structure of the pituitary gland	glandular system	2	10
Theory exam reports homework	smart board classroom	General structure of the adrenal glands, thyroid gland, thyroid gland, islets of Langerhans and pineal glands	glandular system	2	11
Theory exam reports homework	smart board classroom	sperm steps The general structure of the testicles. Ducts that carry the excretory gonads (seminal vesicles, prostate and Cooper's gland)	male reproductive system	2	12
Theory exam reports homework	smart board classroom	Thick and thin skin	The Skin	1	13
Theory exam reports homework	smart board classroom	General structure of the ovary, oviduct, uterus and vagina follicle growth steps ovulation	The female reproductive system	3	14
Theory	smart board	Structure	Urinary tract	2	15

exam reports homework	classroom	(ureters, bladder and urethra) Nephron tissue filtration, absorption and excretion Structure and function of the kidneys and nephrons			
		Final exam			16

Course Description Form

1. Course Name:
Medical physics
2. Course Code:
129
3. Semester / Year:
Second / First
4. Description Preparation Date:
10/ 3/2024
5. Available Attendance Forms:
Theoretical lectures in classroom and practical lectures in specialized lab
6. Number of Credit Hours (Total) / Number of Units (Total)
Two hours / week (theory) and Two hours / week – 3 units .....
7. Course administrator's name (mention all, if more than one name)
Name: Email:
8. Course Objectives

Course Objectives : It gives students the ability to deal with the concepts of physics, and emphasizes the knowledge and skills necessary to perform and efficiently the duties and responsibilities of a pharmacist. This part deals with the concept of basic physics and the application of physics in the medical field. At the end of the course students will be able to understand the physical terms that are used to describe the lecture and their application in the medical field.	• • •

9. Teaching and Learning Strategies	
Strategy	Theoretical and practical lectures Daily assignments
10. Course Structure	

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Theory exam reports homework	smart board classroom	General concept of physics thermodynamic system	General concepts: Physics method and standards; Thermodynamic system and system properties. Conservation of energy principle; Application of thermodynamics. .Zero law	2	1
Theory exam reports homework	smart board classroom	the pressure; temperature in medicine	the pressure; Temperature in medicine and thermometers	2	2
Theory exam reports homework	smart board classroom	public law equilibrium state	case equation. ideal gas and real gas; General Gas Law. Balance and types of balance. Compressibility factor, volume expansion modulus	2	3
Theory exam reports homework	smart board classroom	heat and energy; Effort	Heat and energy; voltage and forms of mechanical action; Energy; 1st law of thermodynamics. Boyles and Charles Law	2	4
Theory exam reports homework	smart board classroom	Randomness and enthalpy	The second law of thermodynamics. Inverse and inverse randomness and enthalpy	2	5
Theory exam reports homework	smart board classroom	Thermal theory	Infrared and thermal theory	2	6
		Exam1			7
Theory exam reports	smart board classroom	The concept of internal energy	Internal energy. Heat capacity and adiabatic process.	2	8

homework			The relationship between pressure, volume, and temperature in an adiabatic process		
Theory exam reports homework	smart board classroom	kinetic theory optics	Fundamentals of physics: kinetic theory of gases. electromagnetic waves; optics physics	2	9
Theory exam reports homework	smart board classroom	radiation effect	The effect of radiation on the transfer of heat in the human body	2	10
Theory exam reports homework	smart board classroom	Radiation concept	Infrared and ultraviolet indication	2	11
Theory exam reports homework	smart board classroom	medical app	The medical and biological effect of radiation	2	12
Theory exam reports homework	smart board classroom	Electromagnetic radiation concept	Electromagnetic radiation	2	13
Theory exam reports homework	smart board classroom	X-ray concept	X-ray production and X-ray spectrum	2	14
Theory exam reports homework	smart board classroom	Radiation absorption	X-ray absorption	2	15
		Exam 2			

Course Description Form

1. Course Name:
Medical microbiology I
2. Course Code:
212
3. Semester / Year:
First / Second
4. Description Preparation Date:
10/3/2024
5. Available Attendance Forms:
Theoretical lectures in classroom and practical lectures in specialized lab
6. Number of Credit Hours (Total) / Number of Units (Total)
Three hours / week (theory) and two hours / week (practical)- 4 units
7. Course administrator's name (mention all, if more than one name)
Name: Email:
8. Course Objectives

Course Objectives : Medical bacteriology is concerned with knowing the different types of bacteria, the shape and naming of all microorganisms, the parts of the microscope and how it can be used to diagnose different types of bacteria, and the classification of bacteria for their shape as rod and spherical as well as according to their interaction with the dye such as negative Gram and Gram-positive, how to grow bacteria in media and how to sterilize. Provides a basic understanding of the shape, anatomy, physiology and genetics of bacteria.	• • ..... • ....

9. Teaching and Learning Strategies

Strategy	Theoretical and practical lectures Daily assignments

10. Course Structure

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Theory exam reports homework	smart board classroom	History of microbiology	The importance of microbiology	2	1
Theory exam reports homework	smart board classroom	Edges of surfaces. Capsule. Cell wall of gram negative and gram positive bacteria. cytoplasmic membrane	Anatomy of bacteria	2	2
Theory exam reports homework	smart board classroom	Chemical and physical determinants of growth. Growth and graphics of growth and reproduction of bacteria	Bacterial Physiology	2	3
Theory exam reports homework	smart board classroom	Definition, genetic elements, and mutations (spontaneous genes Transfer, transformation, conjugation, and transduction of genes	Genes	2	4
Theory exam reports homework	smart board classroom	Biotechnology and DNA	=	2	5
Theory exam reports homework	smart board classroom	Spore formation and reproduction	=	2	6
		Exam 1		1,5	7
Theory exam reports homework	smart board classroom	physical and chemical methods	sterilization	2	8

Theory exam reports homework	smart board classroom	Types	Chemotherapy	2	9
Theory exam reports homework	smart board classroom	Bacterial forms pigmentation and division	Bacterial properties	1	10
Theory exam reports homework	smart board classroom	Streptococcus Biogens Streptococcus pneumoniae	genus Staphylococcus	3	11
Theory exam reports homework	smart board classroom	Baslas Anthraces Basslas Stlass Bass Siss	Spore-forming Bacillus aerobic bacteria	1	12
Theory exam reports homework	smart board classroom	Clostridium brazingis Clostridium titani Clostridium botulium	selected	3	13
Theory exam reports homework	smart board classroom	Korani Bacterium Diphtheria Myco Bacterium Tuber Closus	=	2	14
Theory exam reports homework	smart board classroom	Listeria	=	1	15
		Exam2			

Course Description Form

1. Course Name:
Medical microbiology II
2. Course Code:
227
3. Semester / Year:
Second / Second
4. Description Preparation Date:
10/ 3/ 2024
5. Available Attendance Forms:
Theoretical lectures in classroom and practical lectures in specialized lab
6. Number of Credit Hours (Total) / Number of Units (Total)
Three hours /week (theory) and two hours /week (practical) – 4 units
7. Course administrator's name (mention all, if more than one name)
Name: Email:
8. Course Objectives

Course Objectives : they study of many types of parasites, the shape, where they live, the name of the disease, the life cycle of the parasite, signs and symptoms and discuss the life cycle of the virus, types and stages of infection and the incubation period of the disease, the path of infection, prevention and treatment. It aims to provide students with knowledge about disease development, form, laboratory diagnosis and identification, pathology, clinical manifestations of parasitic and viral diseases and the basic concepts of immunization against these diseases. It also aims to know the methods of specialized and non-specialized immune response.	• ..... • ..... • .....

9. Teaching and Learning Strategies

Strategy	Theoretical and practical lectures Daily assignments

10. Course Structure

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Theory exam reports homework	smart board classroom	Introduction to the types of parasites	Introduction	3	1
Theory exam reports homework	smart board classroom	Amoeba plantidium giardia chylomastics	Intestinal protozoa	5	2
Theory exam reports homework	smart board classroom	leishmania Trypanosoma	flagellate	4	3
Theory exam reports homework	smart board classroom	malaria; Toxoplasma	sporophytes	4	4
Theory exam reports homework	smart board classroom	malaria; Toxoplasma	Worms and their division	5	5
Theory exam reports homework	smart board classroom	Ascaris water bag worms	=	5	6
		Exam 1		1,5	7
Theory exam reports homework	smart board classroom	An introduction to a comparison between viruses, bacteria and other microbes	viruses	2	8
Theory exam reports homework	smart board classroom	virus division	=	2	9
Theory exam reports homework	smart board classroom	reproduction	=	2	10
Theory exam reports homework	smart board classroom	Virus isolation, diagnosis and development	=	2	11

Theory exam reports homework	smart board classroom	genetic mutation methods	=	2	12
Theory exam reports homework	smart board classroom	antiviral chemotherapy	=	2	13
Theory exam reports homework	smart board classroom	DNA Viruses	=	2	14
Theory exam reports homework	smart board classroom	RNA Viruses	=	2	15
Theory exam reports homework	smart board classroom	General introduction	immunity	1	16
Theory exam reports homework	smart board classroom	Innate and stimulating immunity	types of immunity	2	17
Theory exam reports homework	smart board classroom	B and T cell antigen properties		3	18
Theory exam reports homework	smart board classroom	Complement. Types of hypersensitivity	terminology in immunity	3	19
Theory exam reports homework	smart board classroom	tumor immunity	Oncology	3	20
		Exam2			

Course Description Form

1. Course Name:
Biochemistry I
2. Course Code:
314
3. Semester / Year:
First / Third
4. Description Preparation Date:
10/3/ 2024
5. Available Attendance Forms:
Theoretical lectures in classroom and practical lectures in specialized lab
6. Number of Credit Hours (Total) / Number of Units (Total)
Three hours /week (theory) and two hours/week (practical) – 4 units
7. Course administrator's name (mention all, if more than one name)
Name: Email:
8. Course Objectives

Course Objectives : It is concerned with knowing the definition of "biochemistry. It explains the specificity of enzymes (biochemical catalysts), the chemistry involved in the work of the enzyme, and how glucose metabolism occurs, which ultimately leads to the generation of large amounts of energy. It describes how metabolism occurs Dietary fats and amino acids, explaining how they can be used for fuel, describing the structure of DNA, and identifying five classes of polymeric biomolecules and their monomeric structure.	• • ..... • ....

9. Teaching and Learning Strategies

Strategy	Theoretical and practical lectures Daily assignments

10. Course Structure

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Theory exam reports homework	smart board classroom	Definition and terminology. Protein DNA. Clinical values	Introduction to macromolecules in biochemistry	2	1
Theory exam reports homework	smart board classroom	Synthesis of amino acids. Category. Properties. other shapes	amino acids	3	2
Theory exam reports homework	smart board classroom	Chemical reactions. Ion Zwetter. Flattening drawing. Neutral ion point calculations. Non-standard amino acids. Composition, presence and clinical value	amino acids	3	3
Theory exam reports homework	smart board classroom	Peptide bonds. Resonance and isomer. Physical properties and chemical reactions. Polypeptides are essential in the human body. Installation. Occupation. Clinical value	peptide	3	4
Theory exam reports homework	smart board classroom	Installation and routing. Initial installation. Secondary installation. Triple structure. Quadruple structure partition. Industry. Cell function (enzymes, signal transmission,	protein	3	5

		carrier, structure proteins) protein in nutrition			
Theory exam reports homework	smart board classroom	Imbalance of the nature of the protein determine the order of amino acids. Synthesis of the nitrogenous end of an amino acid and the determination of the s terminus of an amino acid. Administrator's predictions for protein ordering from DNA and RNA	Protein	3	6
		Exam1			7
Theory exam reports homework	smart board classroom	Chemistry and Classification, Importance of Biomedicine, Classification of carbohydrates, stereochemistry of monosaccharides, and metabolism of carbohydrates. Physiologically important monosaccharides, glycosides, disaccharides, disaccharides	carbohydrate	3	8
Theory exam reports homework	smart board classroom	Introduction, Classification of Fats and Fatty Acids (F.A), Nomenclature of F.A, saturated F.A, unsaturated F.A, physical and	Fats	3	9

		physiological properties of F.A, and lipid metabolism. Phospholipids, lipid peroxidation and antioxidants, separation and determination of the proportion of lipids, isogroup lipids			
Theory exam reports homework	smart board classroom	Structures and mechanism, naming and classification, Catalytic mechanisms, thermodynamics , specificity, lock and main model, induced fit model, transition state stabilization, dynamics and function, allosteric modulation. Biological function, cofactors, coenzymes, and involvement in disease	enzymes	3	10
Theory exam reports homework	smart board classroom	For general principles, factors affecting enzyme speed (concentration, pH, temperature, etc.), enzyme reaction with substance (Michaelis-	kinetic	3	11

		Menten kinetics), and kinetic constants. Examples of kinematic questions and solutions			
Theory exam reports homework	smart board classroom	Reversible, competitive, and non-reversible inhibitors Competition, mixed type inhibition, and irreversible inhibition. Kinetics and tendencies for correlation, questions and .solutions	enzyme inhibitors	2	12
Theory exam reports homework	smart board classroom	multiple substrate interactions, Complex triangular mechanisms, ping pong mechanisms, kinetics of N. Michael Menten, kinetics before the steady state, and chemical .mechanisms	Controlling efficacy and use of inhibitors Controlling efficacy and use of inhibitors	2	13
Theory exam reports homework	smart board classroom	Chemical structure of the components of DNA, the nucleic Acid bases, nucleotides and deoxynucleotide s (properties, base pairing, sense and antisense, supercoil and alternative	DNA	3	14

		structures, and quaternary .structures			
Theory exam reports homework	smart board classroom	genes, genetic factors, transcription and Translation and replication. Biochemistry of extracellular and intercellular communication: plasma Membrane structure and function. Biomedical importance, membrane-associated lipid bilayer proteins, membrane protein composition, biostructures of membranes, and homologous structures of membranes	The biological function of DNA	5	15
		Exam2	.....		

Course Description Form

1. Course Name:
Biochemisty II
2. Course Code:
329
3. Semester / Year:
Second / Third
4. Description Preparation Date:
10/ 3/2024
5. Available Attendance Forms:
Theoretical lectures in classroom and practical lectures in specialized lab

6. Number of Credit Hours (Total) / Number of Units (Total)	
Three hours/ week (theory) and two hours/ week (practical) – 4 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Email:	
8. Course Objectives	
Course Objectives : It is concerned with the study of bioenergy, the role of ATP, the importance of carbohydrates and their metabolism, the importance of fats and their metabolism, amino acids and proteins and their metabolism process, and plasma proteins. And the diversity of the work of the endocrine system, hormones, enzymes, and enzyme kinetics nucleotide metabolism and DNA structure.	• • •
9. Teaching and Learning Strategies	
Strategy	Theoretical and practical lectures Daily assignments
10. Course Structure	

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Theory exam reports homework	smart board classroom	The role of ATP Oxidation Biology respiratory chain	Bioenergy	3	1
Theory exam reports homework	smart board classroom	glycolysis Citric acid cycle glucose production oxidative phosphorylation	Cellular metabolism of carbohydrates	3	2
Theory exam reports homework	smart board classroom	The pentose phosphate pathway representation of glycogen The uronic acid route Glycose, aminoglycan and glycoprotein	Cellular metabolism of carbohydrates	3	3
Theory exam reports homework	smart board classroom	fatty acid industry	fat representation	3	4
Theory exam reports homework	smart board classroom	Oxidation of fatty acids ketone production	fat representation	3	5
Theory exam reports homework	smart board classroom	Fat transfer and storage	fat representation	3	6
Theory exam reports homework	smart board classroom	Mid-course exam		3	7
Theory exam reports homework	smart board classroom	Non-essential amino acid industry	Representation of proteins and amino acids	3	8
Theory exam reports	smart board classroom	Breaking down the carbonic structure of	Representation of proteins and amino acids	3	9

homework		amino acids Converting amino acids to specific products			
Theory exam reports homework	smart board classroom	nucleotides	large particles	3	10
Theory exam reports homework	smart board classroom	representation of purines and pyridines	large particles	3	11
Theory exam reports homework	smart board classroom	The function and structure of the amino acid	large particles	3	12
Theory exam reports homework	smart board classroom	DNA replication and repair	large particles	3	13
Theory exam reports homework	smart board classroom	Porphyrin and gallbladder tincture		2	14
		final exam			

.....

Course Description Form .....

.....

1. Course Name:
Pathophysiology
2. Course Code:
315
3. Semester / Year:
First / Third
4. Description Preparation Date:
10/3/2024
5. Available Attendance Forms:
Theoretical lectures in classroom and practical lectures in specialized lab
6. Number of Credit Hours (Total) / Number of Units (Total)
Three hours/ week (theory) and two hours/ week (practical) – 4 units

7. Course administrator's name (mention all, if more than one name)	
Name: Email:	
8. Course Objectives	
Course Objectives :clarifies the basic concepts of diseases at the cellular level related to injury, the body's defense mechanism from disease, mutations, and cellular proliferation. It presents an outline of the main pathological factors that affect the disease process. It describes the effect of abnormal functions on the organs associated with the disease process of the target body systems	• • •
9. Teaching and Learning Strategies	
Strategy	Theoretical and practical lectures Daily assignments
10. Course Structure	

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Theory exam reports homework	smart board classroom	Introduction to the meaning of science	Introduction	1	1
Theory exam reports homework	smart board classroom	Degeneration. necrosis; atrophy; Hypertrophy; Metaplasia and calcification. Inflammation and repair	Cell injury and tissue response	6	2
Theory exam reports homework	smart board classroom	Increased hyponatremia. Hyperkalemia and hypokalemia. Syndrome of inappropriate secretion of ADH. Diabetes insipidus: acid-base metabolism and acid-base .respiration	Disturbance of electrolytes and balance of water, acid and base	4	3
Theory exam reports homework	smart board classroom	congestion; Coagulation. Occlusion and infarction. shock; Cardiovascular disease, heart attack, rheumatic heart disease. heart failure; acute pulmonary edema	Cardiovascular disorders	3	4
Theory exam reports homework	smart board classroom	Hypertension. Secondary hypertension. Malignant hypertension. Reduction of Blood pressure.	=	2	5

		Aneurysms vs. Varicose Veins			
Theory exam reports homework	smart board classroom	For lung infections. tuberculosis; respiratory distress syndrome	Respiratory disorders	1	6
		Exam1		1,5	7
Theory exam reports homework	smart board classroom	Bronchial asthma; Emphysema and bronchiectasis. Cystic fibrosis; Pulmonary embolism. Pulmonary .hypertension	Respiratory disorders	2	8
Theory exam reports homework	smart board classroom	nephrotic syndrome; Glomerulonephritis. Diabetic glomeruli. Glomerular disease, high .blood pressure	Kidney system disorders	2	9
Theory exam reports homework	smart board classroom	Pyelonephritis.. acute kidney failure; Chronic kidney failure	Kidney system disorders	2	10
Theory exam reports homework	smart board classroom	Stomach ulcers, Elison's disease and Crohn's disease	Gastrointestinal and hepatic disorders	2	11
Theory exam reports homework	smart board classroom	Diarrhea; Celiac disease. Hepatitis; primary biliary cirrhosis; liver failure; Cholelithiasis	Gastrointestinal and hepatic disorders	2	12
Theory exam reports homework	smart board classroom	Thyroid hormone deficiency and excess, Kravis'	Thyroid gland dysfunction	2	13

		disease			
Theory exam reports homework	smart board classroom	Kishk's disease. Adrenal insufficiency. adrenal gland aplasia	adrenal gland dysfunction	2	14
Theory exam reports homework	smart board classroom	Diabetes, cellular metabolism disorder, protein and fat disorders	cellular metabolism disorders	3	15
		Exam2			

Course Description Form

1. Course Name:	
Public Health	
2. Course Code:	
415	
3. Semester / Year:	
First / Fourth	
4. Description Preparation Date:	
10/3/2024	
5. Available Attendance Forms:	
Theoretical lectures in classroom and practical lectures in specialized lab	
6. Number of Credit Hours (Total) / Number of Units (Total)	
Two hours / week (theory) – 2 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Email:	
8. Course Objectives	
Course Objectives : This program allows students to understand the principles of public health and the art of preventing disease, promoting health, and extending life, through an organized effort of society.	• • •
9. Teaching and Learning Strategies	

Strategy	Theoretical lectures Daily assignments

10. Course Structure

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Theory exam reports homework	smart board classroom	generic icons	Introduction	2	1
Theory exam reports homework	smart board classroom	The causative agents of infectious diseases	Infectious diseases	1	2
Theory exam reports homework	smart board classroom	Cardiovascular disease	Non-infectious diseases	1	3
Theory exam reports homework	smart board classroom	Stomach and intestine diseases	Infectious and non-communicable diseases	2	4
Theory exam reports homework	smart board classroom	skin diseases	Infectious and non-communicable diseases	1	5
Theory exam reports homework	smart board classroom	Sexually transmitted diseases	Infectious diseases	1	6
		Exam1		1,5	7
Theory exam reports homework	smart board classroom	tumor disease	Oncology	3	8
Theory exam reports homework	smart board classroom	respiratory system diseases	Infectious diseases	2	9
Theory exam reports homework	smart board classroom	Includes maternal injuries and vaccination	family planning	2	10
		Exam2			

Course Description Form

1. Course Name:
Clinical Chemistry
2. Course Code:
514
3. Semester / Year:
First / Fifth
4. Description Preparation Date:
10/3/2024
5. Available Attendance Forms:
Theoretical lectures in classroom and practical lectures in specialized lab
6. Number of Credit Hours (Total) / Number of Units (Total)
Three hours/ week (theory) and two hours/ week (practical) – 4 units
7. Course administrator's name (mention all, if more than one name)
Name: Email:
8. Course Objectives

Course Objectives : Interprets required laboratory tests and interpretation of results, cellular carbohydrate metabolism disorder, plasma lipids and lipoproteins disorder, liver function testing, renal function disorders, plasma enzymes in diagnosis. Hypothalamus, pituitary, plasma proteins, and adrenal glands. Reproductive system. Pregnancy and infertility. Thyroid function tests.	• ..... • ..... • .....

9. Teaching and Learning Strategies	
Strategy	Theoretical and practical lectures Daily assignments
10. Course Structure	

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Theory exam reports homework	smart board classroom	Request lab tests and interpret results	Request lab tests and interpret results	2	1
Theory exam reports homework	smart board classroom	A look at the natural metabolism of carbohydrates The role of the liver, muscle and adipose tissue High glucose and diabetes low glucose	carbohydrate metabolism disorder	6	2
Theory exam reports homework	smart board classroom	Review of normal fat metabolic pathways Classification of lipid disorder Clinical symptoms of lipids and fat related	Disorder of plasma lipids and lipoproteins	4	3
Theory exam reports homework	smart board classroom	The physiological role of the liver Liver disease: hepatitis, jaundice and cirrhosis of the liver Liver function tests	Liver function test	4	4
Theory exam reports homework	smart board classroom	Kidney physiology Kidney disorders Kidney function assessment: glomerular filtration rate, renal tubular assessment	Kidney function disorder	3	5
Theory exam reports	smart board classroom	Normal distribution of enzymes in	Diagnosis of plasma enzymes	3	6

homework		human tissues, isoenzymes, Factors affecting the measurement of enzymatic activity Clinical application to measure plasma enzymes			
		mid-course exam		1,5	7
Theory exam reports homework	smart board classroom	Normal physiology of the hypothalamus and pituitary gland pituitary gland disorder	Hypothalamus and pituitary gland	4	8
Theory exam reports homework	smart board classroom	The normal physiology of the adrenal gland adrenal gland disorder	Adrenal	3	9
Theory exam reports homework	smart board classroom	The normal physiology of the reproductive system Reproductive system disorder	reproductive system	4	10
Theory exam reports homework	smart board classroom	The natural physiology of pregnancy Hormonal changes associated with infertility	Pregnancy and infertility	6	11
Theory exam reports homework	smart board classroom	The normal physiology of the thyroid gland Thyroid disorder	Thyroid	3	12
Theory exam reports homework	smart board classroom	Plasma protein components Electron separation of plasma proteins	Plasma proteins	3	13
		Final Exam			

Course Description Form

1. Course Name:
Clinical Laboratory Training
2. Course Code:
515
3. Semester / Year:
First / Fifth
4. Description Preparation Date:
10/3/2024
5. Available Attendance Forms:
Theoretical lectures in classroom and practical lectures in specialized lab
6. Number of Credit Hours (Total) / Number of Units (Total)
Four hours / week (Practical) – 2 units
7. Course administrator's name (mention all, if more than one name)
Name: Email:
8. Course Objectives

Course Objectives : Laboratory training: It shows how to conduct different types of analyzes, discuss the results and write clinical reports according to the data obtained from the evaluation. Training includes hematology, parasitology, bacteriology, biochemistry, quality control, immunology, serology, virology, general urinalysis, and sterilization.	• …… • …… • ……

9. Teaching and Learning Strategies	
Strategy	Theoretical and practical lectures Daily assignments
10. Course Structure	

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	Basics of diagnostic testing, collection and transportation of specimens, venipuncture, urine specimen, and stool specimen	Request lab tests and interpret results	2	1
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	Fasting blood test blood sugar after food glucose tolerance	biochemical tests	2	2
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	urea in the blood serum creatinine Clean creatinine uric acid	Kidney function test	2	3
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	blood proteins bilirubin	Liver function test	2	4
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	Calcium inorganic phosphate chlorine in serum	biochemical tests	2	5
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	Alkaline phosphatase, Acid phosphatase, Alanine Amiotransferase, Aspartate aminotransferas	Diagnosis of plasma enzymes	2	6

		e, Lactate dehydrogenase, Creatine phosphokinase			
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	VDRL, ASO- Titer, Hepatitis tests. C-reactive protein test, Rheumatic factor test, Rosebengal test, Typhoid fever (Widal test), Pregnancy Test	serology tests	2	7
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	Amount of blood cells hemoglobin BBC white blood cells blood platelets Coombs test blood tests bleeding time blood cell sedimentation rate	blood tests	2	8
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	Collecting a urine sample for the detection of physical and chemical properties	general urine test	2	9
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	Implant test, sensitivity and pigmentation method	microbiology test	2	10
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	medium rich middle Media for general use	microbiology test	2	11
Practical exams	Power point slides	Tests for identification of	microbiology test	2	12

Reports discussion oral exam Laboratory Efficiency	Laboratory visit	bacteria, disc diffusion tests of antibiotic susceptibility, selection of drugs for disc testing, bacterial disease and their laboratory diagnosis.			
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	Herpes Virus, Arthomyxo. Baromexo. Hypatu. Intestinal parasites Malaria and Toxoplasma parasites	Parasites and viruses	2	13
Practical exams Reports discussion oral exam Laboratory Efficiency	Power point slides Laboratory visit	ELISA PCR Electrocardiogram	new technology	2	14
		Final Exam			

.....
.....
.....

Course Description Form

1. Course Name:
Computer science
2. Course Code:
3. Semester / Year:
First / Second
4. Description Preparation Date:
10/3/ 2024
5. Available Attendance Forms:
Practical lectures in lab
6. Number of Credit Hours (Total) / Number of Units (Total)

Two hours / week – one units	
7. Course administrator's name (mention all, if more than one name)	
Name: Email:	
8. Course Objectives	
Course Objectives : gives students the ability to deal with the concept of computer science, and emphasizes the knowledge and skills required to efficiently perform the duties and responsibilities of a pharmacist. The course deals with the basic concept of computer and its application in human life and the medical field. Upon completion of the course students will be able to understand computer terms and acronyms used to describe the lecture, and the different programming languages.	• • •
9. Teaching and Learning Strategies	
Strategy	Practical lectures Daily assignments
10. Course Structure	

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Practical exam and class efficacy	Data show + Electronic row display	Graphing apps	Data import	2	1
Practical exam and class efficacy	Data show + Electronic row display	Introduction to statistics using microsoft excel	data analysis	2	2
Practical exam and class efficacy	Data show + Electronic row display	Introduction to statistics using microsoft excel	How to calculate some statistical values	2	3
Practical exam and class efficacy	Data show + Electronic row display	Common errors in the Excel application	error formulas in excel	2	4
Practical exam and class efficacy	Data show + Electronic row display	Introduction to statistics using microsoft excel	Entering data analysis in excel	2	5
Practical exam and class efficacy	Data show + Electronic row display	Introduction to statistics using microsoft excel	escriptive statistics	2	6
Practical exam and class efficacy	Data show + Electronic row display	Introduction to Statistics Using Microsoft Excel	ecursive	2	7
Practical exam and class efficacy	Data show	Introduction to Statistics Using Microsoft Excel	Correlation	2	8
Practical exam and class efficacy	Data show	Introduction to Statistics Using Microsoft Excel	Regression	2	9
Practical exam and class efficacy	Data show	Introduction to Statistics Using Microsoft Excel	Single sample t-test	2	11
Practical exam and class efficacy	Data show	Introduction to Statistics Using Microsoft Excel	t-test for a pair of data, unsupported t-test	2	10
Practical exam and class efficacy	Data show	Introduction to Statistics Using Microsoft Excel	One-way ANOVA test, ANOVA test: two factors without recurrence	2	11
Practical exam and class efficacy	Data show	Practical lessons in chemistry		2	12
Practical exam and class efficacy	Data show	=	Drawing chemical Structure	2	13
Practical exam and	Data show	=	IR , UV	2	14

class efficacy					
Practical exam and class efficacy	Data show	=	-NMR	2	15

Course Description Form

1. Course Name:	
Computer science	
2. Course Code:	
3. Semester / Year:	
Second / second	
4. Description Preparation Date:	
10/3/2024	
5. Available Attendance Forms:	
Practical lectures in lab	
6. Number of Credit Hours (Total) / Number of Units (Total)	
Two hours / week – one units	
7. Course administrator's name (mention all, if more than one name)	
Name: ..... mail:	
8. Course Objectives	
Course Objectives : gives students the ability to deal with the concept of computer science, and emphasizes the knowledge and skills required to efficiently perform the duties and responsibilities of a pharmacist. The course deals with the basic concept of computer and its application in human life and the medical field. Upon completion of the course students will be able to understand computer terms and acronyms used to describe the lecture, and the different programming languages.	• • •
9. Teaching and Learning Strategies	
Strategy	Practical lectures Daily assignments

Evaluation method	Education method	Unit name and/or topic	Required learning outcomes	Hours	Week
Practical exam and class efficacy	Data show	Data Analysis with SPSS General Aspects, Workflow, Critical Issues	SPSS	2	1
Practical exam and class efficacy	Data show	–SPSS Windows available in the program	SPSS general description, functions, menus, directives	2	2
Practical exam and class efficacy	Data show	Data entry and modification, SPSS program dialogs, manual data entry, syntax of files and scripts, output management	Define variables	2	3
Practical exam and class efficacy	Data show	Descriptive data analysis frequencies,	descriptive statistics frequency tables	2	4
Practical exam and class efficacy	Data show	Charts	Graphs	2	5
Practical exam and class efficacy	Data show	Statistical tests	the average	2	6
Practical exam and class efficacy	Data show	=	T-Test	2	7
Practical exam and class efficacy	Data show	=	One-way ANOVA test	2	8
Practical exam and class efficacy	Data show	=	non-parametric tests	2	9
Practical exam and class	Data show	=	normal tests	2	10

Practical exam and class efficacy	Data show	Correlation and regression analysis	Correlation and regression	2	11
Practical exam and class efficacy	Data show	=	Linear correlation and regression	2	12
Practical exam and class efficacy	Data show	=	Multiple Regression (Linear)	2	13
Practical exam and class efficacy	Data show	=	Multivariate analysis	2	14
Practical exam and class efficacy	Data show	Non-parametric tests	test Chi square	2	15
		Exam 2 theoretical and practical			
efficacy					

11. Course Evaluation

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

The studying subject which are only theoretical , the degree division of it will be as follows :

Mid-Term Exam: 30 Marks

Final-Term Exam: 70 Marks

The studying subject which are theoretical and practical , the degree division of it will be as follows :

Mid-Term Exam (theoretical) : 20 Marks

Mid-Term Exam (practical) : 20 Marks

Final-Term Exam: 60 Marks

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Computer science: first semester, first stage ICDL International Certificate in Computer halls Forms (Prog. Exam) Mathematics and biostatistics: the first semester of

	the first academic year 1. Finney RI, Thomas GB (Eds.); Calculus and Analytical Geometry Daniel WW, Foundation for Analysis in the Health Sciences, 4th ed. halls Forms (breast examination) Human biology: the first semester of the first academic year Johnks and Lnglis (eds.), Textbook of Human Biology, latest edition Medical Physics: 1st semester of the first academic year Physics, Biology and Medical Students, 2nd Edition Histology: 1st semester of the first academic year Basic Histology by Luis Carlos 11th ed. (2005) Human anatomy: the second semester of the year Clinical Anatomy by Regions (Richard S. Snell 8th ed. 2010). Medical Microbiology: 1st semester of the second academic year 1- Lange Medical Microbiology 2- Medical Microbiology I, Seventeenth Edition E. Jawetz, J.L. Melnik, E.A. just 1987 3- Principles of Microbiology by Roland M. Virology and Parasitology: 1st semester of the second academic year Animal agents and vectors of diseases to humans. 5th.Ed. Computer. Beaver & amp; Young. BiochemistryI and II: 1st semester 1st year 3rd academic year 1. Harper's Illustrated Biochemistry, 27th ed. 2006. 2. Lippincott Biochemistry and Photographer, 2011 3. Lehninger Principles of Biochemistry, 2004 Pathophysiology: 3 years / 1stsemester Essentials in Pathophysiology by: Carol Mattson-Borth 2nd Ed. Public Health: 4th year / 1st semester Lucas AO, HM Jill, (Eds.), Short Textbook of Orbital Public Health Medicine, (4th ed.), 2003.

	Clinical Chemistry: 5th year / 1st semester 1- Crook M A. (ed) Clinical Biochemistry and Metabolic Medicine, 8th ed., 2012. Hodder Arnold. 2- Portis CA, Ashwood ER, Bronze D (Eds.) Tietz Textbook of Clinical Chemistry and Molecular Diagnostics, 5th ed., 2012, Elsevier. Laboratory Training: Lectures and Guidelines
Main references (sources)	Curriculum books approved by the faculties of pharmacy.
Recommended books and references (scientific journals, reports…)	Related scientific books that can be obtained from international websites
Electronic references, websites	

…..

…..

…..