Ministry education High And search Scientific device Supervision And the calendar Scientific circle a guarantee the quality And accreditation Academic to divide Accreditation

Academic program and course

2024

Introduction:

The educational program is considered a coordinated and organized package of academic courses that includes procedures and experiences organized in the form of academic vocabulary, the main purpose of which is to build and refine the skills of graduates, making them qualified to meet the requirements of the labor market. It is reviewed and evaluated annually through internal or external audit procedures and programs such as the external examiner program.

The description of the academic program provides a brief summary of the main features of the program and its courses, indicating the skills that students are working to acquire based on the objectives of the academic program. The importance of this description is evident because it represents the cornerstone of obtaining program accreditation, and the teaching staff participates in writing it under the supervision of the scientific committees in the scientific departments.

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

In this area, we can only emphasize the importance of writing descriptions of academic programs and courses to ensure the smooth conduct of the educational process.

Concepts and terminology:

Description of the academic program: 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: It provides a necessary summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he has 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 an advanced, inspiring, motivating, realistic and applicable program.

Program message: It briefly explains the objectives and activities necessary to achieve them, and also identifies the program's development paths and directions.

Program Goals: 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/study subjects included in the academic program according to the approved learning system (semester, annual, Bologna track), whether it is a requirement (ministry, university, college, or scientific department), along with the number of study units.

Learning Outcomes: A compatible set of knowledge, skills, and values that the student has acquired after successfully completing the academic program. The learning outcomes for each course must be determined in a way that achieves the program objectives.

Teaching and learning strategies: They are the strategies used by the faculty member to develop the student's teaching and learning, and they are plans that are followed to reach the learning goals. That is, it describes all curricular and extracurricular activities to achieve the learning outcomes of the programme.

Academic program description form

University Name:Al–Furat Al–Awsat Technical University.

the college/Institute:Technical/Kufa

scientific department:Department of Medical Laboratory Technologies

Name of the academic or professional program:diploma

Name of the final certificate:Technical Diploma

School system:courses(quarterly)

Date the description was prepared:2/13/2024

File filling date:2/13/2024

signature:

Name of head department:.Dr.Ahmed Fadhel Al–Shawi

date:

signature:

Name of scientific assistant:a..Dr. Mohamed Sobhi

Check the file before

Division of Quality Assurance and University Performance

Name of the director of the Quality Assurance and University Performance Division:

the date

the signature

Authentication of the Dean

.See the program

Remember to see the program as stated in the university prospectus and website.

Providing graduates with the necessary knowledge and experience in the fields of work in medical laboratories, which include isolating and diagnosing bacteria present in various clinical samples, preparing tissue slides for various organs of the body and preparing them for examination. Thus, the graduate is qualified and acquires scientific and practical skills and has a positive impact on the development of the governmental and private health sector and spreading awareness in Areas of public health in society

.Program message

State the program's mission as stated in the university's bulletin and website

Achieving excellence in teaching and learning, acquiring scientific skills, and implementing educational and training programs and research activities, which leads to enhancing the high capacity in diagnosing various diseases and developing preventive and curative health services so that they are accessible to all members of society.

.

.Program Goals

General statements that describe what the program or institution intends to achieve

The department aims to

1- We graduate highly skilled technical personnel capable of working in medical laboratories, conducting routine laboratory analyses, general chemical examinations, and examining various body fluids such as cerebrospinal fluid, sputum, and

semen.
2- Graduate students conduct various researches and contribute to raising...
The level of health education and cooperation with various organizations in meeting the therapeutic and preventive needs of individuals and society
.

.Program accreditation
Does the program have program accreditation? From which side? **nothing**

.Other external influences
Is there a sponsor for the program? **nothing**

.Program structure

comments *	percentage	Study unit	Number of courses	Program structure
	%8.1	11	6	Enterprise requirements
	5.9%	8	3	College requirements
	85.9%	116	22	Department requirements
	–	–	2 months	summer training
				Other

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

7. Program description

Credit hours		Name of the course or course	Course or course code	Year/level
practical	theoretical			
4	2	Laboratory techniques		The first stage/first semester
3	2	Microscopic preparations		
2	2	Laboratory equipment		
3	2	Histology		
4	2	analytical chemistry		
2	1	Nursing basics		
2	1	Calculator applications		
4	2	Quality control		First stage/second semester
3	2	Histological slides		
2	2	Molecular biology		
2	1	Laboratory safety		
2	1	Transfusion		
4	2	Biochemistry		
–	2	Human rights and democracy		
–	2	English		
4	2	Microbiology		The second stage/first semester
4	2	Blood diseases1		
4	2	clinical Chemistry1		
4	2	Immunology		
4	2	Primary parasites		
2	1	Viruses		
–	2	Professional behavior		
–	2	Baath crimes		
4	2	Pathogenic bacteria		
4	2	Blood diseases2		
4	2	clinical Chemistry		

4	2	Clinical immunology		The second stage/second semester
4	2	Parasitic worms		
2	1	Medicinal mushrooms		
–	2	research project		

8 – Expected learning outcomes of the program

Knowledge	
Statement of learning outcomes1	Learning Outcomes1 Knowledge and understanding 1- Clarification Concepts the basic for work in Laboratories Medical a2-Acquisition The skill in to treat Problems And obstacles that Facing a job Laboratories a3- Acquisition Skills the basic for work in Analytics Pathogenesis a4- How writing Reports Medical
Skills	
Statement of learning outcomes2	Learning Outcomes2

	B 1-Capacity on to prepare The circles Agricultural And chemical To diagnose Etiology B 2-Writing results Reports watching Microscopic B 3 - Capacity on Diagnosis Etiology Injuries
Statement of learning outcomes3	Learning Outcomes3
Value Exams The short one (Kozat) - Exams Quarterly And final For materials the operation And theory - Interaction inside Hall lecture - Reports - Projects Graduation - Training Summer	
Statement of learning outcomes4	Learning Outcomes4
Statement of learning outcomes5	Learning Outcomes5

9-Teaching and learning strategies

Teaching and learning strategies and methods adopted in implementing the program in general.

By giving theoretical and practical lectures and conducting scientific experiments to teach these skills over two consecutive years, daily, weekly and monthly, developing teaching curricula compatible with approved international curricula, sending students for training in educational hospitals in order to gain experiences that simulate reality.

10-Evaluation methods

Implementing it in all stages of the program in general.

Evaluating the student inside the classroom through daily attendance, the student's interaction with the lecture and class discussions, the student's self-behavior, daily exams, semester and final exams.
- Participation grades for discussion questions on academic topics, grades for homework assignments.

11-The teaching staff

Faculty members

Preparing the teaching staff		Special requirements/skills (if any)		Specialization		Scientific rank
lecturer	angel			private	general	
	/			Microbiology	Life science	A.M.D. Nour Ismail Nasser
	/			organic chemistry	Chemistry	A.M.D. Mahmoud Mohy Fahd
	/				Life science	A.M.D. Maysoon Khudair Abdel Abbas
	/			Clinical and life chemistry	Pathological analyses	M.D. Ahmed Fadel Al-Shawi
	/			Biomolecular	Life science	M.D. Specter of Razzaq Majeed
	/			Parasites	Life science	M.D. Abbas Nasser Hussein
	/			Physiology	Life science	A.M.D. Ask Arif Abdel Ali
	/			Parasites	Life science	M.D. Mona Adel Ismail

	/			Microbiology	Life science	M.D. Fatima Hamza Sahib
	/			Microbiology	Life science	M.D. Khamail Aref Mahdi
	/			Tissue	Life science	millimeter. Nour Ibrahim Abdel Zahra
	/			Tissue	Life science	millimeter. Nour Hassan Nasser
	/			Immunity	Life science	M.D. Sarah Hassan Kazem
	/				Life science	millimeter. Conclusion by Kazem Khudair
	/			Parasites	Life science	Eng. Raja Jawad Muhammad
	/			Genetics	Life science	millimeter. Ali Muhammad Abd Shabib
	/				Life science	millimeter. Karar Qais Abdel Jalil
	/					Inaam Radi Ahmed
	/				Chemistry	millimeter. Rabab Mortada Abd Jaber
	/					Salma Amer Salem
	/				Chemistry	M.D. Etemad Abdul Ali Abdul Rahman
	/				Pathological analyses	Ali Abdel Amir Githum
	/				Life science	Inaam Hashem is negligent
	/				Life science	Iqbal Yusuf Abdul

	/					Ali Kazem is tired

Professional development
Orienting new faculty members
Briefly describes the process used to orient new, visiting, full-time, and part-time faculty at the institution and department levels.**By holding introductory and skills courses for new recruits (contracts).315)**
Professional development for faculty members
Briefly describe the academic and professional development plan and arrangements for faculty members such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.**Involving the staff in advanced courses such as courses on teaching methods, administrative and legal skills.**

.Acceptance standard
(**Developing regulations related to admission to the college or institute, whether central admission or others mentioned**) **According to the controls specified by the Ministry of Global Education through central admission, the admission controls approved by the university and college, according to the student's desire to apply in the department. The student must be a graduate of preparatory school, exclusively in the scientific/biological branch, or its equivalent.**

.The most important sources of information about the program
Remember briefly. **Methodical books, professorial lectures, scientific portfolios, scientific research and dissertations, the Internet, the library Centrality in Institute., Experiences Universities Arabic And global.**

3. Program development plan
Adding global scientific developments and keeping pace with modern developments in the field of medical laboratories by involving teaching staff in advanced specialized courses.

Program skills chart															
Outputs Learning required from the program															
Value				Skills				Knowledge				Essential or optional?	name The decision	Code The decision	the year / the level
C4	C3	C2	C1	B 4	B 3	B 2	B 1	a 4	a 3	a2	a 1				

Please situation Signal in Squares the interview For outputs Learning Individuality from the program Submissive For evaluation

Curriculum skills chart

Please check the boxes corresponding to the individual learning outcomes from the programs being evaluated

Learning outcomes required from the programme

Transferable general and qualifying skills (other skills related to employability and personal development)				Emotional goals And value				Skills objectives of the program				Cognitive goals				Semester/ basic	Course Name	Course Code	Year/level
Dr 4	Dr 3	Dr2	Dr 1	C 4	C 3	C 2	C 1	B 4	B 3	B 2	B1	a4	a3	a2	a 1				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Basic	Histology and anatomy	1	The first stage
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Basic	Laboratory equipment	2	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Basic	Histological slides	3	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Basic	General chemistry	4	
*	*			*	*	*	*									Basic	English language	5	
*	*	*	*	*	*	*	*									Basic	the computer	6	
														*	*	Basic	Laboratory techniques and quality control	7	
						*	*							*		Basic	Democracy and human rights	8	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	quarterly	Fundamentals of nursing/blood banking		

Curriculum skills chart

Please check the boxes corresponding to the individual learning outcomes from the programs being evaluated

Learning outcomes required from the programme

Transferable general and qualifying skills (other skills related to employability and personal development)				Emotional goals And value				Skills objectives of the program				Cognitive goals				Semester/ basic	Course Name	Course Code	Year/level
Dr 4	Dr 3	Dr2	Dr 1	C 4	C 3	C 2	C 1	B 4	B 3	B 2	B1	a4	a3	a2	a 1				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Basic	Bacteriology (germs	1	The second phase
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Basic	Parasites	2	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Basic	Immunity	3	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Basic	Blood diseases	4	
				*	*	*	*									Basic	English language	5	
*	*	*	*	*	*	*	*									Basic	the computer	6	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Basic	Clinical chemistry	7	

						*	*									quarterly	Professional behavior	8	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	quarterly	Viruses/fungi		

Course description form

1. name The decision chemistry Clinical	
2. Code The decision	
3. the chapter / the year	
4. date Preparation this the description 2/18/2024	
5. Available forms of attendance: In-person	
6. Number of study hours (total)/number of units (total)	
180	
7. Name of the course administrator (if more than one name is mentioned)	
Name: M.D. Ahmed Virtuous The Shawi Email :	
8. Course objectives	
Introducing metabolic diseases and methods of diagnosing them by conducting clinical chemistry analyses	**Objectives of the study subject**
9. Teaching and learning strategies	
- the explanation And clarification on road Lectures - road an offer Materials Scientific With devices the offer Data what And a screen the offer . - education Self on road Preparation Reports in Laboratories Cases Pathogenesis - Providing students with the basics and additional topics related to the previous learning outcomes of skills, to solve practical problems -Applying the topics studied theoretically at the practical level in various laboratories affiliated with teaching hospitals -Visit of practical laboratories by academic staff	**The strategy**

0. Course evaluation	
distribution Class from 100 on according to mission Assigned With it requester like Preparation Daily And exams Daily And oral And monthly And editorial And reports ....etc	
. Learning and teaching resources	
	Required textbooks (methodology, if any)
Clinical Chemistry and metabolism	Main references (sources)
	Recommended supporting books and references (scientific journals, reports….)
AK Lecture	Electronic references, Internet sites

10.structure The decision **chemistry Clinical**

road Evaluation	road education	name Unit /or the topic	Outputs Learning required	hours	the week
		Introduction, collection and handing of blood samples, anti-coagulant protein receipt ant kinds, urine compassion, urine collection methods urine preservative		2 Theoretical	1
		Electrolyte (NA+ , K+ , ph-3 , Fe+3,4)		2 Theoretical	2
		Trace element [cu, co, zn, mg] ,disease appeared in abnormal metabolism of these metals		2 Theoretical	3
		Acid base balance in disease appeared in disturbance of acidity and alkaline of blood, types of buffer system.		2 Theoretical	4
		Carbohydrate.		2 Theoretical	5
		Digestion, absorption in normal condition and abnormal condition		2 Theoretical	6
		Glucose Tolerance test in		2	7

		normal condition and in DM		Theoretical	
		Glucose metabolism, No. of hormones reside glucose level, hormone decrease blood glucose level		2 Theoretical	8
		Types of DM, ketosis, glycosuria.		2 Theoretical	9
		Proteins		2 Theoretical	10
		Digestion and absorption of proteins in normal and abnormal conditions.		2 Theoretical	11
		Abnormal protein types and the disease appeared with these proteins		2 Theoretical	12
		Protein metabolism, types of metabolism, protein function		2 Theoretical	13
		Electrophoresis of plasma protein, types of blood protein, disease accompanied by these proteins		2 Theoretical	14
		Proteinuria, causes, disease accompanied by it.		2 Theoretical	15
		Protein determination methods		2 Theoretical	16
		Lipid, type of lipids, function classification.		2 Theoretical	17
		Digestion, absorption of lipids.		2 Theoretical	18
		Metabolism of lipid, disease appeared with abnormal condition		2 Theoretical	19
		Cholesterol, triglyceride, free fatty acid.		2 Theoretical	20

		Lipoproteins, types, disease accompanied by abnormal condition		2 Theoretical	21
		Hyperlipidemia		2 Theoretical	22
		Enzyme, important in the body.		2 Theoretical	23
		Classification and function of enzymes		2 Theoretical	24
		Factors effect on enzyme activity.		2 Theoretical	25
		Changes in enzyme activity and the disease accompanied by that change		2 Theoretical	26
		liver function test.		2 Theoretical	27
		Hormones, types, properties, functions.		2 Theoretical	28
		Hormones mechanism, disease accompanied by abnormal secretion		2 Theoretical	29
		Tests and comprehensive		2 Theoretical	30

1. name The decision Germs
science Biology Microscopic / Bacteria Satisfying
2. Code The decision

3. the chapter / the year
2023/2024
4. date Preparation this the description
2/18/2024
5. Available attendance forms
My presence
6. Number of study hours (total)/number of units (total)
7. Name of the course administrator (if more than one name is mentioned)
Name: A.M.D. Light Ismael supporter Email :
8. Course objectives

Replenish requester With information Empower him from relationship Much from basics science Bacteria Firstly then study Pathogenicity all Type And Importance all who are they Medically In conclusion Will be requester Conversant With concepts Bacteria Pathogenesis and pathogenicity all Type Bacterial on Sharpness And types Toxins that Produce it And empowerment requester from isolation Bacterial Pathogenesis from Different Samples Clinical And determine Its type from during appearance Colonies And its colors And its smell And its specifications Biochemical And accept it For dyes.	**Objectives of the study subject**

9. Teaching and learning strategies	
- the explanation And clarification on road Lectures - road an offer Materials Scientific With devices the offer Data what And a screen the offer . - education Self on road Preparation Reports in Laboratories Cases	**The strategy**

Pathogenesis - Providing students with the basics and additional topics related to the previous learning outcomes of skills, to solve practical problems -Applying the topics studied theoretically at the practical level in various laboratories affiliated with teaching hospitals -Visit of practical laboratories by academic staff	

0. Course evaluation

distribution Class from 100 on according to mission Assigned With it requester like Preparation Daily And exams Daily And oral And monthly And editorial And reports ....etc

. Learning and teaching resources

Educational bags	Required textbooks (methodology, if any)
Medical bacteriology Medical microbiology	Main references (sources)
3ed edition \ Microbiology and infectious diseases \editor: Gabriel Virella, MD, Ph.D.	Recommended supporting books and references (scientific journals, reports….)
https://www.ncbi.nlm.nih.gov/pubmed/	Electronic references, Internet sites

Raqqa Evaluation	road education	name Unit \or the topic	Outputs Learning required	hours	the week
Exams Oral And practical	Lectures And my work	Behavior inside lab	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	1
Exams Oral And practical	Lectures And my work	Bacterial cell shape aggregation make a smear simple stain.	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	2
Exams Oral And practical	Lectures And my work	Differential stain, gram stain, acid fast stain, special stain, capsule stain, spore stain, spirochetes stain.	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	3
Exams Oral And practical	Lectures And my work	Weight composition of media agar classification of media, solidity, function	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	4
Exams Oral And practical	Lectures And my work	Sterilization and disinfection type of sterilization and disinfection	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	5
Exams Oral And practical	Lectures And my work	Growth requirement, preparation of media	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	6
Exams Oral And	Lectures And my work	Techniques on media, streaking, stabbing,	to understand Subjectivity And	6	7

practical		inoculation, purring.	portability on application Experiments In a way correct And blogging Results		
Exams Oral And practical	Lectures And my work	Staphylococcus, character characteristics, lab diagnosis	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	8
Exams Oral And practical	Lectures And my work	Streptococcus, character characteristics, lab diagnosis	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	9
Exams Oral And practical	Lectures And my work	Pneumococcus character characteristics, lab diagnosis,	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	10
Exams Oral And practical	Lectures And my work	Corynebacterium character characteristics, lab diagnosis	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	11
Exams Oral And practical	Lectures And my work	Mycobacterium character characteristics, lab diagnosis	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	12
Exams Oral And practical	Lectures And my work	Bacillus general characters, lab diagnosis	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	13
Exams Oral And practical	Lectures And my work	Clostridium, general characters, lab diagnosis	to understand Subjectivity And portability on application Experiments In a way correct And blogging	6	14

			Results		
Exams Oral And practical	Lectures And my work	Neisseriae general characters, lab diagnosis	to understand Subjectivity And portability on application Experiments In a way correct And blogging Results	6	15

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
Oral and practical exams	Lectures and practical	Haemophilus, general characteristic, laboratory diagnosis	Understand the subject and be able to apply experiments correctly and write down the results	6	16
Oral and practical exams	Lectures and practical	Enterobacteriaceae, general characteristic, lab diagnosis	Understand the subject and be able to apply experiments correctly and write down the results	6	17
Oral and practical exams	Lectures and practical	E.coli, general characteristic, laboratory diagnosis.	Understand the subject and be able to apply experiments correctly and write down the results	6	18
Oral and practical exams	Lectures and practical	klebsiella general characteristic, lab diagnosis	Understand the subject and be able to apply experiments correctly and write down the results	6	19
Oral and practical exams	Lectures and practical	proteus general characteristic, lab diagnosis	Understand the subject and be able to apply experiments correctly and write down the results	6	20
Oral and practical exams	Lectures and practical	Salmonella and shigella general characteristic, lab diagnosis	Understand the subject and be able to apply experiments correctly and write down the results	6	21
Oral and practical exams	Lectures and practical	pseudomonas general characteristic, lab diagnosis	Understand the subject and be able to apply experiments correctly and write down the results	6	22
Oral and practical	Lectures and practical	vibirio general characteristic, lab	Understand the subject and be able	6	23

exams		diagnosis	to apply experiments correctly and write down the results		
Oral and practical exams	Lectures and practical	Sensitivity test and introduction to antibiotic	Understand the subject and be able to apply experiments correctly and write down the results	6	24
Oral and practical exams	Lectures and practical	Collection of clinical urine samples	Understand the subject and be able to apply experiments correctly and write down the results	6	25
Oral and practical exams	Lectures and practical	Collection of clinical samples stool. stool	Understand the subject and be able to apply experiments correctly and write down the results	6	26
Oral and practical exams	Lectures and practical	Collection of clinical samples sputum	Understand the subject and be able to apply experiments correctly and write down the results	6	27
Oral and practical exams	Lectures and practical	Collection of clinical samples Body fluid	Understand the subject and be able to apply experiments correctly and write down the results	6	28
Oral and practical exams	Lectures and practical	Collection of clinical samples blood. blood	Understand the subject and be able to apply experiments correctly and write down the results	6	29
Oral and practical exams	Lectures and practical	review	Understand the subject and be able to apply experiments correctly and write down the results	6	30

1. name The decision Parasites
Parasite Primary/worms Parasitic
2. Code The decision
3. the chapter / the year
2023/2024
4. date Preparation this the description
2/18/2024
5. Available attendance forms
My presence
6. Number of study hours (total)/number of units (total)
(180) hours
7. Name of the course administrator (if more than one name is mentioned)
Name: M.D. Mona fair Ismael Email :
8. Course objectives

Definition and introduction to the most important medical parasitology Identifying the most important diseases and the most common diseases in laboratories, understanding the mechanism of parasite development, understanding the factors that lead to infection with parasitic diseases, classifying parasites, analyzing the results that students reach and comparing them with standard samples.	

9. Teaching and learning strategies

- the explanation And clarification on road Lectures - road an offer Materials Scientific With devices the offer Data what And a screen the offer . - education Self on road Preparation Reports in Laboratories Cases Pathogenesis - Providing students with the basics and additional topics related to the previous learning outcomes of skills, to solve practical problems -Applying the topics studied theoretically at the practical level in various laboratories affiliated with teaching hospitals -Visit of practical laboratories by academic staff	**The strategy**

0. Course evaluation

distribution Class from 100 on according to mission Assigned With it requester like Preparation Daily And exams Daily And oral And monthly And editorial And reports ....etc

. Learning and teaching resources

Text book of Medical Parasitology/Educational bag	Required textbooks (methodology, if any)
Sources for each subject **Study Book and assist book**	Main references (sources)
Scientific journals in the field List of publiacations in parasitology Parasitisism Parasitilogistis	Recommended supporting books and references (scientific journals, reports….)
Internet	Electronic references, Internet sites

).structure The decision **Parasites**

road Evaluation	road education	name Unit /or the topic	Outputs Learning required	hours	the week
Quiz +Presence	theoretical	Defines the parasites, parasitology types of parasites, Types of host Classification of parasites Protozoa + metazoan Metazoa [helminthes and arthropoda]	He recognizes requesteron	2 Theoretical	the first
Quiz +Presence	theoretical	Introduction generally in characteristic feature of protozoa and classification:- Rhizopoda, Mastigophora, Cilophora (ciliate), Telospora	Understands requester the topic	2 Theoretical	the second
Quiz +Presence	theoretical	Class Rhizopoda Pathogenic amoeba Entamoebahistolytica Morphology, life cycle, pathogenicity, Lab.diagnosis	Understands requester the topic	2 Theoretical	the third
Quiz +Presence	theoretical	Few of morphology, pathogenicity, diagnosis of:- Entamoeba gingivalis, A canthomoeba, Naegleria	Understands requester the topic	2 Theoretical	the fourth
Quiz +Presence	theoretical	Different between Entamoeba coli and E. histolytica. and morphology, Lab, diagnosis of Iodamoeba butschlii, Endolimax nana, E. Dispar, Dientamoeba fragilis	Understands requester the topic	2 Theoretical	Fifth
Quiz +Presence	theoretical	Class Mastigophor or Flagellates generally introduction in characteristic feature and classification in (intestinal flagellates, blood and tissue flagellates, genital flagellates). Intestinal Flagellate:- Giardialamblia, Chilomastix mesnili, Trichomonas hominis, Morphology, life cycle, pathogenicity, and lab. Diagnosis	Understands requester the topic	2 Theoretical	VI
Quiz +Presence	theoretical	Genital flagellate Trichomonasvaginales Oral flagellates Trichomonastenax Morphology, pathogenicity and lab. diagnosis	Understands requester the topic	2 Theoretical	Seventh
Quiz +Presence	theoretical	Tissue and blood flagellate Haemoflagellate forms. Lishmaniadonovani Lishmaniatropica Lishmaniabrazeliencis Morphology, life cycle, pathogenicity, Lab. diagnosis	Understands requester the topic	2 Theoretical	VIII
Quiz +Presence	theoretical	Trypanosomacruzi Trypanosomabrucei Morphology, life cycle, pathogenicity, Lab. Diagnosis	Understands requester the topic	2 Theoretical	Ninth

		Sample of Tse-tse fly and Reduviid bug.			
Quiz +Presence	theoretical	Class Ciliophra (cilata) Plantidiumcoli Morphology, life cycle, pathogenicity, Lab. diagnosis	Understands requester the topic	2 Theoretical	The tenth
		Review	review For the material Previous	2 Theoretical	atheistic ten
Quiz +Presence	theoretical	Class Sporozoa General introduction of characteristic features of sporozoa. Life cycle in general of Plasmodium spp. In man and insects.	Understands requester the topic	2 Theoretical	the second ten
Quiz +Presence	theoretical	Plasmodiumvivax Plasmodiumovale pathogenicity, Lab. diagnosis	Understands requester the topic	2 Theoretical	the third ten
Quiz +Presence	theoretical	Plasmodiummalariae Plasmodiumfalciparum pathogenicity, Lab. Diagnosis and short notes of parasites Babesia spp. The differences in lab. diagnosis with Plasmodium spp.	Understands requester the topic	2 Theoretical	the fourth ten
Quiz +Presence	theoretical	Isosporiabelli, Toxoplasma gondii Morphology, life cycle, pathogenicity, Lab. diagnosis	Understands requester the topic	2 Theoretical	Fifth ten
Quiz +Presence	theoretical	Cryptosporidiumspp. Morphology, life cycle, pathogenicity, Lab. diagnosis	Understands requester the topic	2 Theoretical	VI ten
Quiz +Presence	theoretical	Review and examination (First one)	Understands requester the topic	2 Theoretical	Seventh ten
Quiz	theoretical	In general introduction of characteristic features of metazoa	Understands	2 Theore	VIII ten

+Presence		Helminthes (cestoda, trematoda and nematoda)	requester the topic	tical	
Quiz +Presence	theoretical	Class Cestoda Taeniasaginata Taeniasolium Morphology, life cycle, pathogenicity, Lab. diagnosis	Understands requester the topic	2 Theoretical	Ninth ten
Quiz +Presence	theoretical	Hymenolepisnana Hymenolepisdiminuta Morphology, life cycle, pathogenicity, Lab. diagnosis	Understands requester the topic	2 Theoretical	The twentieth
Quiz +Presence	theoretical	Echinococcusgranulosis Morphology, life cycle, pathogenicity, Lab. diagnosis	Understands requester the topic	2 Theoretical	atheistic And the twenty
Quiz +Presence	theoretical	Class Trematoda In general life cycle of Schistosomaspp. Schistosomahaematobium Schistosomamansoni Schistosomajaponicum Morphology, life cycle, pathogenicity, Lab. diagnosis	Understands requester the topic	2 Theoretical	the second And the twenty
Quiz +Presence	theoretical	Short notes of (liver flukes) Fasciola hepatica (Lung flukes) Fasciola buski (intestinal flukes) Heterophyes heterophes Lab. diagnosis	Understands requester the topic	2 Theoretical	the third And the twenty
Quiz +Presence	theoretical	Class Nematode Ascarislumbricoides Trichuristrichura Morphology, life cycle, pathogenicity, Lab. diagnosis	Understands requester the topic	2 Theoretical	the fourth And the twenty
Quiz +Presence	theoretical	Enterobiusvermicularis Ancylostomadudenale Necatoramericanus Morphology, life cycle, pathogenicity, Lab. diagnosis	Understands requester the topic	2 Theoretical	Fifth And the twenty
Quiz +Presence	theoretical	Larvae migrans in humans 1-cutenous larvae migrans Ancylostomacaninum Schistosomasp. 2-subcutenous larva migrans (scrow worm)(Myiasis) 3-visceral larva migrans	Understands requester the topic	2 Theoretical	VI And the twenty

		Toxocaraspp. pathogenicity, Lab. diagnosis			
Quiz +Presence	theore tical	Filaria Wuchereriabancrofti Loa loa Morphology, life cycle, pathogenicity, Lab. diagnosis	Unders tands request er the topic	2 Theore tical	Seventh And the twenty
Quiz +Presence	theore tical	Short notes of class Annelida Hirudo medicinalis in human morphology and laboratory. Diagnosis. And from metazoan Class Arthropoda Short notes of morphology and lab. diagnosis, some pathogenicity of 1-insect (Anopheline, Sand fly, Tse-tse fly, Reduviid bug, Culex, lice, Fleas, Cimex) 2-Arachnids Mites, tick	Unders tands request er the topic	2 Theore tical	VIII And the twenty
		Review	review For the materi al Previo us		Ninth And the twenty
		Examination (one second) And final examination			thirty

1. name The decision Fungi
mushrooms medical /viruses
2. Code The decision
3. the chapter / the year
2023/2024
4. date Preparation this the description
2/18/2024
5. Available attendance forms
My presence

6. Number of study hours (total)/number of units (total)
7. Name of the course administrator (if more than one name is mentioned)
Name: M.D. Fatima Hamza owner Email :
8. Course objectives

Providing the student with the necessary information to know the types of fungi that cause the infection and ways to prevent it, as well as knowing the types of fungi	

9. Teaching and learning strategies	
- the explanation And clarification on road Lectures - road an offer Materials Scientific With devices the offer Data what And a screen the offer . - education Self on road Preparation Reports in Laboratories Cases Pathogenesis - Providing students with the basics and additional topics related to the previous learning outcomes of skills, to solve practical problems -Applying the topics studied theoretically at the practical level in various laboratories affiliated with teaching hospitals -Visit of practical laboratories by academic staff	**The strategy**

0. Course evaluation
distribution Class from 100 on according to mission Assigned With it requester like Preparation Daily And exams Daily And oral And monthly And editorial And reports ....etc

. Learning and teaching resources	
Educational bags	Required textbooks (methodology, if any)
Jawetz medical microbiology	Main references (sources)
Practical microbiology	Recommended supporting books and references (scientific journals, reports….)
	Electronic references, Internet sites

.structure The decision **mushrooms medical**					
road Evaluation	road education	name Unit /or the topic	Outputs Learning required	hours	the week
Exams Oral And practical	Lectures And my work	Introduction of medical fungi	to understand the introduction the basic on Fungi	3	1
Exams Oral And practical	Lectures And my work	Structure, reproduction and classification	Did you get me? Fungi And its installation And knock Its reproduction	3	2

Exams Oral And practical	Lectures And my work	Cultural characteristics, type of mycosis	to understand Properties And types Mycosis	3	3&4
Exams Oral And practical	Lectures And my work	General principles in treatments	Identify on basics Methods treatment	3	5
Exams Oral And practical	Lectures And my work	Actinomyces, Novartis, Myeloma	Identify on Species Fungal	3	6&7
Exams Oral And practical	Lectures And my work	Dermatophytes	Identify on Its types Her recipes the basic	3	8
Exams Oral And practical	Lectures And my work	Candidiasis	knowledge Candida Her recipes	3	9
Exams Oral And practical	Lectures And my work	Cytococcosis	to understand the topic	3	10
Exams Oral And practical	Lectures And my work	Cryptococcosis	to understand the topic	3	11
Exams Oral And practical	Lectures And my work	Histoplasmosis, sporotrichosis	to understand the topic	3	12
Exams Oral And practical	Lectures And my work	Miscellaneous fungi, Aspergillosis, mucor	study What is related? By types mentioned	3	13
Exams Oral And practical	Lectures And my work	Rhizomes, penicillium	to understand the topic	3	14
Exams Oral And practical	Lectures And my work	Antifungal agent, antibiotic produced by Fungi	to understand the topic And knowledge pharmaceutical Extracted from Fungi	3	15

The first stage

1. name The decision
techniques Laboratory And control Quality
2. Code The decision
3. the chapter / the year
2023/2024
4. date Preparation this the description
2/18/2024
5. Available attendance forms
My presence
6. Number of study hours (total)/number of units (total)
180 hours (60 theoretical hours + 120 practical hours)
7. Name of the course administrator (if more than one name is mentioned)
Name: M.D. Khamayel **Knowing Mahdi** Email :
8. Course objectives

1- **At the end of the study stage, the student will have mastered the foundations of laboratory techniques, serums, tests, methods of performing them, and high technology in order to reach the most accurate results. At the end of the study stage, the student will also learn about the parts of the immune system, its function, and how diseases are resisted in the body. The student will be familiar with the operation of laboratory tools and how to deal with laboratory models that come to the serology or serum science laboratory.** **2- The student's knowledge of sterilization methods and their importance in staying away from pollutants and diseases** **3-Learning about microbiology and methods for preparing agricultural media, cultivating microorganisms, and destroying them through sterilization.** **3-Knowing the URN test and its importance in diagnosing kidney and body diseases** **4-Learn about the exit test and its importance in detecting digestive system diseases and parasites**	

9. Teaching and learning strategies	
- the explanation And clarification on road Lectures - road an offer Materials Scientific With devices the offer Data what And a screen the offer . - education Self on road Preparation Reports in Laboratories Cases Pathogenesis - Providing students with the basics and additional topics related to the previous learning outcomes of skills, to solve practical problems -Applying the topics studied theoretically at the practical level in various laboratories affiliated with teaching hospitals -Visit of practical laboratories by academic staff	**The strategy**

0. Course evaluation
distribution Class from 100 on according to mission Assigned With it requester like Preparation Daily And exams Daily And oral And monthly And editorial And reports ....etc

. Learning and teaching resources	
Immunity and serum book	Required textbooks (methodology, if any)
Basic Immunology: Functions And Disorders Of The Immune System byAbul K. Abbas	Main references (sources)
1- Beat auto immune **2- Janeway's** **3-Kuby** **4- Fundamental** **-Pubmed5** **6-Lippincott**	Recommended supporting books and references (scientific journals, reports….)
Pubmed(NCBI data base) **Science direct** **Google schoolar**	Electronic references, Internet sites

). Course structureLaboratory techniques and quality control

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
Questioning or testing students as needed	a lecture		Introduction to quality control	Two hours theoretical and four hours practical	The firs week
Questioning or testing students as needed	a lecture		Medical relief of QA, Standarded units of the international system	Two hours theoretical and four hours practical	the second
Questioning or testing students as needed	a lecture	Exit test	Balancing error detection and false rejection	Two hours theoretical and four hours practical	3-4-5
Questioning or testing students as needed	a lecture	n	Quality control materials	Two hours theoretical and four hours practical	Sixth and seventh
Questioning or testing students as needed	a lecture		QA techniques for quantitative results	Two hours theoretical and four hours practical	VIII
	a lecture		QA techniques for qualitative results	Two hours theoretical and four hours practical	Ninth
.	a lecture		QA techniques for semi-quantitative results	Two hours theoretical and four hours practical	The tenth
Questionin	a		Troubleshoot based on	Two hours	eleven

g or testing students as needed	lecture		QA results	theoretical and four hours practical	
Questioning or testing students as needed	a lecture		review. .	Two hours theoretical and four hours practical	12-13-14-15

1. name The decision	
Preparations Laboratory And slices Histological	
2. Code The decision	
3. the chapter / the year	
2023/2024	
4. date Preparation this the description	
2/18/2024	
5. Available attendance forms	
My presence	
6. Number of study hours (total)/number of units (total)	
2 theoretical + 3 practical **Total60 theoretical hours and 90 practical hours annually**	
7. Name of the course administrator (if more than one name is mentioned)	
the name : A.M.D. Sahira **Aid Abdul Sahib** Email :	
8. Course objectives	
Qualifying Students And their numbers for work in area search Scientific and more Their ambition And encourage	

them To complete Studies Primary And Supreme in area Preparations Microscopic Being from Domains that to attest development scientific marked . to encourage search Scientific and gain Students Skills the basic that Qualifies them for work in Laboratories Preparations Histological.	

9. Teaching and learning strategies

- the explanation And clarification on road Lectures - road an offer Materials Scientific With devices the offer Data what And a screen the offer . - education Self on road Preparation Reports in Laboratories Cases Pathogenesis - Providing students with the basics and additional topics related to the previous learning outcomes of skills, to solve practical problems -Applying the topics studied theoretically at the practical level in various laboratories affiliated with teaching hospitals -Visit of practical laboratories by academic staff	**The strategy**

0. Course evaluation

distribution Class from 100 on according to mission Assigned With it requester like Preparation Daily And exams Daily And oral And monthly And editorial And reports ....etc

. Learning and teaching resources

	Required textbooks (methodology, if any)
book Optical microscopic preparations - theory and application	Main references (sources)
Bancroft, J. and Stevens, A. Theory and Practice of Histological Techniques. Churchill Livingstone, London. 2002.	Recommended supporting books and references (scientific journals, reports….)
Multi	Electronic references, Internet sites

.structure The decision					
road Evaluation	road education	name Unit /or the topic	Outputs Learning required	hours	the week
Exams And short, And Quarterly, And the final	a lecture theory using program powerpoint	identification Terminology Histological	Definition of some terminology that deals with histology, cytology,...etc.	Two hours theoretical +3 hours practical	the first
Exams And short, And Quarterly, And the	a lecture theory using program powerpoint	plural Models The snake And samples Post death	Sample collection, biopsy, and autopsy.	Two hours theoretical +3 hours practical	the second

final					
Exams And short, And Quarterly, And the final	a lecture theory using program powerpoint	steps to prepare Weaving, installation And stabilizers	Steps of preparing tissue for study, fixation, fixatives.	Two hours theoretical +3 hours practical	the third And the fourth
Exams And short, And Quarterly, And the final	a lecture theory using program powerpoint	Installation Routine And installation private	Routine fixatives and special fixatives.	Two hours theoretical +3 hours practical	Fifth And the sixth
Exams And short, And Quarterly, And the final	a lecture theory using program powerpoint	Solutions And time Washing	Washing, solution, time.	Two hours theoretical +3 hours practical	Seventh
Exams And short, And Quarterly, And the final	a lecture theory using program powerpoint	Drying And stabilizers	Dehydration, dehydrants.	Two hours theoretical +3 hours practical	VIII
Exams And short, And Quarterly, And the final	a lecture theory using program powerpoint	Entertainment And types Al-Murrawaqat	Clearing, clearing agents	Two hours theoretical +3 hours practical	Ninth
Exams And short, And Quarterly, And the final	a lecture theory using program powerpoint	Saturation, types Wax	Infiltration, types of waxes.	Two hours theoretical +3 hours practical	The tenth
Exams	a lecture	Casting And	blocking and	Two	atheistic

And short, And Quarterly, And the final	theory using program powerpoint	pruning	trimming.	hours theoretical +3 hours practical	ten
Exams And short, And Quarterly, And the final	a lecture theory using program powerpoint	device Cutting, cutting	Microtomes, Sectioning.	Two hours theoretical +3 hours practical	the second ten
Exams And short, And Quarterly, And the final	a lecture theory using program powerpoint		Review	Two hours theoretical +3 hours practical	the third ten And the fourth ten
			Final exam		Fifth ten

1. name The decision
Devices Laboratory
2. Code The decision
3. the chapter / the year
2023/2024
4. date Preparation this the description

2/18/2024
5. Available attendance forms
My presence
6. Number of study hours (total)/number of units (total)
60 hours (30 theoretical hours + 30 practical hours)
7. Name of the course administrator (if more than one name is mentioned)
the name : Email :
8. Course objectives

1-Empowerment the students from to understand Tools Medical Main. **2-Empowerment the students from to set any Importance For this Tools using Experiments Analytical Laboratory**	

9. Teaching and learning strategies	
- the explanation And clarification on road Lectures - road an offer Materials Scientific With devices the offer Data what And a screen the offer . - education Self on road Preparation Reports in Laboratories Cases Pathogenesis - Providing students with the basics and additional topics related to the previous learning outcomes of skills, to solve practical problems -Applying the topics studied theoretically at the practical level in various laboratories affiliated with teaching hospitals -Visit of practical laboratories by academic staff	**The strategy**

0. Course evaluation
distribution Class from 100 on according to mission Assigned With it requester like Preparation Daily And exams Daily And oral And monthly And editorial And reports ....etc
. Learning and teaching resources

Pathological analysis book	Required textbooks (methodology, if any)

Book Introduction to Medical Laboratory Technology By FJ Baker and RE Silverton Butter worths. 2. Binding practical Practical Medical Technology By MDA 1986	Main references (sources)
Pathological analyses Ashour Al Nuaimi Al-Wajeez in Pathological Analysis.	Recommended supporting books and references (scientific journals, reports….)
Pubmed(NCBI data base) **Science direct** **Google schoolar**	Electronic references, Internet sites

10. Course structure					
Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
Questioning or testing students as needed	a lecture	Definition of the microscope, its types, parts, and operating principle	**MICROSCOPES** Uses, main parts, principles of work, types, types of condensers, operation, cleaning, service and maintenance.	Two hours of theory and two hours of practical	the first
Questionin	a	Definition of the	**BALANCES**	Two hours	the second

g or testing students as needed	lecture	scale, its types, parts, and its working principle	Uses, types of balances, main part, principle of operation, operation, service and maintenance.	of theory and two hours of practical	
Questioning or testing students as needed	a lecture	Definition of the spectrophotometer, its types, parts, and operating principle	**PHOTOMETRY** Introduction, Light and wave length, Beer lamberts Law, types of photometers, main parts, filters, prisms and diffraction gratings, principle of operation, operation and maintenance.	Two hours of theory and two hours of practical	the third
Questioning or testing students as needed	a lecture	Definition of the flame spectrometer, its types, parts, and operating principle	**FLAME PHOTOMETRY** Introduction, Uses, main parts, types, atomizers, principles of operation, operation and maintenance.	Two hours of theory and two hours of practical	the fourth
Questioning or testing students as needed	a lecture	Definition of the atomic spectrometer, its types, parts, and operating principle	**ATOMIC ABSORPTION SPECTROPHOTOMETERY** Introduction, uses, types, main parts, principle of operation, operation and maintenance.	Two hours of theory and two hours of practical	Fifth
Questioning or testing students as needed	a lecture	Definition of the centrifuge, its types, parts, and operating principle	**CENTRIFUGES** Uses, types, main parts, principle of operation, operation and maintenance.	Two hours of theory and two hours of practical	VI
Questioning or testing students as needed	a lecture	Definition of the sterilization device, its types, parts, and working principle	**AUTOCLAVES** Introduction, uses, types, main parts, principle of operation, sterilization, operation and maintenance	Two hours of theory and two hours of practical	Seventh
Questionin	a	Definition of the	**PH METERS**	Two hours	VIII

g or testing students as needed	lecture	acidity measuring device, its types, parts, and operating principle	Uses, types, main parts, electrodes, principle of operation, operation and maintenance.	of theory and two hours of practical	
Questioning or testing students as needed	a lecture	Definition of the slide cutter, its types, parts, and its working principle	**MICROTOMS** Uses, types, main parts, sharpeners, principle of operation, operation and maintenance.	Two hours of theory and two hours of practical	Ninth
Questioning or testing students as needed	a lecture	Definition of the electrical relay device, its types, parts, and operating principle	**ELECTROPHORESIS** Uses, types, main parts, principle of operation, operation and maintenance.	Two hours of theory and two hours of practical	The tenth
Questioning or testing students as needed	a lecture	Definition of the water bath and oven, the types of each of them, their parts, and their working principle	**HEATING INSTRUMENTS (WATER BATHS, OVEN & INCUBATION)** Uses, types, main parts thermostats, principle of operation, operation and maintenance.	Two hours of theory and two hours of practical	eleventh
Questioning or testing students as needed	a lecture	Distillation device, its types, parts, and method of operation	**WATER PURIFICATION (DISTILLATORS & DEAIONIZERS)** Distillator, deionizers, uses, main parts, operation and maintenance.	Two hours of theory and two hours of practical	twelveth
Questioning or testing students as needed	a lecture	The self-analysis device, its types, uses, and working principle	**AUTOANALYZERS** Introduction, uses, types, main parts, principle of operation, operation and maintenance.	Two hours of theory and two hours of practical	Thirteenth
Questioning or testing students as needed	a lecture	A review of all the past	**Review**	Two hours of theory and two hours of practical	fourteenth

Written exam	final exam	An examination of all previous lectures	**Final exam**	Two hours of theory and two hours of practical	Fifteenth

1. name The decision
Tissue And dissection
2. Code The decision
3. the chapter / the year
2023/2024
4. date Preparation this the description
2/18/2024
5. Available attendance forms
My presence
6. Number of study hours (total)/number of units (total)

60 hours (30 theoretical hours + 30 practical hours)
7. Name of the course administrator (if more than one name is mentioned)
the name : Email :
8. Course objectives
Qualifying Students To find out science Tissue And examinations Histological All'- solution the problems Medical And scientific that Belonging to area Tissue Pathogenicity' Aim to to Graduating Angels Technique able on the job in Laboratories Medical Governmental And eligibility
9. Teaching and learning strategies
The strategy - the explanation And clarification on road Lectures - road an offer Materials Scientific With devices the offer Data what And a screen the offer . - education Self on road Preparation Reports in Laboratories Cases Pathogenesis - Providing students with the basics and additional topics related to the previous learning outcomes of skills, to solve practical problems -Applying the topics studied theoretically at the practical level in various laboratories affiliated with teaching hospitals -Visit of practical laboratories by academic staff
0. Course evaluation
distribution Class from 100 on according to mission Assigned With it requester like Preparation Daily And exams Daily And oral And monthly And editorial And reports ....etc
. Learning and teaching resources

Basic histology **Atlas and text of histology**	Required textbooks (methodology, if any)
TEXT book of HISTOLOGY **Atlas of histology**	Main references (sources)
Practical histology **Junqueiras basic histology**	Recommended supporting books and references (scientific journals,

	reports….)
locationHISTOLOGY GUIDE HISTOLOGY WORLD	Electronic references, Internet sites

).structure The decision

road Evaluation	road education	name Unit /or the topic	Outputs Learning required	hours	the week
Quiz +Presence	theoretical	Shape of cell	He recognizes requester on	2 Theoretical	the first
Quiz +Presence	theoretical	Epithelial tissue – simple epithelium. T.	Understands requester the topic	2 Theoretical	the second
Quiz +Presence	theoretical	Epithelial tissue- Stratified	Understands requester the topic	2 Theoretical	the third

		epithelium. T.			
Quiz +Presence	theoretical	Connective tissue – Loose co. t.	Understands requester the topic	2 Theoretical	the fourth
Quiz +Presence	theoretical	Connective tissue-dense co. t.	Understands requester the topic	2 Theoretical	Fifth
Quiz +Presence	theoretical	Connective tissue -the blood	Understands requester the topic	2 Theoretical	VI
Quiz +Presence	theoretical	Connective tissue -compact bone	Understands requester the topic	2 Theoretical	Seventh
Quiz +Presence	theoretical	External feature of digestive system	Understands requester the topic	2 Theoretical	VIII
Quiz +Presence	theoretical	Urogenital system of male &female	Understands requester the topic	2 Theoretical	Ninth
Quiz +Presence	theoretical	Live	Understands requester the topic	2 Theoretical	The tenth
		Spleen	Understands	2 Theoretical	atheistic ten
Quiz +Presence	theoretical	Lymph node	Understands requester the topic	2 Theoretical	the second ten
Quiz +Presence	theoretical	Circulatory system (Artery)	Understands requester the topic	2 Theoretical	the third ten
	theoretical	Circulatory system (vein)	Understands requester the topic	2 Theoretical	the fourth ten
	theoretical	Final exam	Understands requester the topic	2 Theoretical	Fifth ten

1. name The decision
Molecular biology
2. Code The decision
3. the chapter / the year

2023/2024
4. date Preparation this the description
2/18/2024
5. Available attendance forms
My presence
6. Number of study hours (total)/number of units (total)
(60) hours
7. Name of the course administrator (if more than one name is mentioned)
the name : Email :
8. Course objectives

Training the student in the necessary skills to deal with biological models used in analysis. Providing the student with theoretical information and practical lessons in various specializations related to his profession. Training the student to use the techniques used in medical laboratories.	

9. Teaching and learning strategies	
- the explanation And clarification on road Lectures - road an offer Materials Scientific With devices the offer Data what And a screen the offer . - education Self on road Preparation Reports in Laboratories Cases Pathogenesis - Providing students with the basics and additional topics related to the previous learning outcomes of skills, to solve practical problems -Applying the topics studied theoretically at the practical level in various laboratories affiliated with teaching hospitals -Visit of practical laboratories by academic staff	**The strategy**

0. Course evaluation

distribution Class from 100 on according to mission Assigned With it requester like Preparation Daily And exams Daily And oral And monthly And editorial And reports ....etc
. Learning and teaching resources

Text book of Molecular Biology	Required textbooks (methodology, if any)
Sources for each subject **Study Book and assist book**	Main references (sources)
Scientific journals in the field **Lippincott Illustrated Reviews: Cell and Molecular Biology**	Recommended supporting books and references (scientific journals, reports….)
Internet	Electronic references, Internet sites

10. structure The decision					
road Evaluation	road education	name Unit /or the topic	Outputs Learni	hours	the week

			ng required		
Quiz +Presence	theoretical	Introduction to molecular biology	He recognizes requesteron	2 Theoretical	the first
Quiz +Presence	theoretical	Cell cycle	Understands requester the topic	2 Theoretical	the second
Quiz +Presence	theoretical	DNA and RNA structure	Understands requester the topic	2 Theoretical	the third
Quiz +Presence	theoretical	DNA replication	Understands requester the topic	2 Theoretical	the fourth
Quiz +Presence	theoretical	DNA transcription	Understands requester the topic	2 Theoretical	Fifth
Quiz +Presence	theoretical	Translation and protein synthesis	Understands requester the topic	2 Theoretical	VI And Seventh
Quiz +Presence	theoretical	Gene expression and regulation	Understands requester the topic	2 Theoretical	VIII
Quiz +Presence	theoretical	Inhibitors of translation and transcription	Understands requester the topic	2 Theoretical	Ninth And The tenth
Quiz +Presence	theoretical	DNA repair system	Understands requester the topic	2 Theoretical	atheistic ten
Quiz +Presence	theoretical	Mutation and chromosomal aberrations	Understands requester the topic	2 Theoretical	the second ten
Quiz +Presence	theoretical	Chemical and physical agents that cause mutation	review For the material	2 Theoretical	the third ten

			Previous		
Quiz +Presence	theoretical	Recombinant DNA technology (cDNA technique)	Understands requester the topic	2 Theoretical	the fourth ten
Quiz +Presence	theoretical	Cloning and application (briefly)	Understands requester the topic	2 Theoretical	Fifth ten

1. name The decision
Chemistry life
2. Code The decision
3. the chapter / the year
2023/2024
4. date Preparation this the description
2/18/2024
5. Available attendance forms
My presence
6. Number of study hours (total)/number of units (total)
30 hours theoretical +60 hours =90 hours
7. Name of the course administrator (if more than one name is mentioned)
the name : Email :
8. Course objectives

At the end of the second semester, the student will have benefited from the biochemistry subject in knowing the structure of the cell and the basic biochemical components, knowing their types, distinguishing between compounds, and calculating	

energy. The student benefited from qualitative and quantitative diagnosis methods for carbohydrates, amino acids, enzymes, and the mechanism of detecting them using reagents. He benefited from biochemistry in knowing the tools, chemical devices, and reagents available in the laboratory.	

9. Teaching and learning strategies

- the explanation And clarification on road Lectures - road an offer Materials Scientific With devices the offer Data what And a screen the offer . - education Self on road Preparation Reports in Laboratories Cases Pathogenesis - Providing students with the basics and additional topics related to the previous learning outcomes of skills, to solve practical problems -Applying the topics studied theoretically at the practical level in various laboratories affiliated with teaching hospitals -Visit of practical laboratories by academic staff	**The strategy**

0. Course evaluation

distribution Class from 100 on according to mission Assigned With it requester like Preparation Daily And exams Daily And oral And monthly And editorial And reports ....etc

. Learning and teaching resources

Lippincotts biochemistry	Required textbooks (methodology, if any)
*-Jacob Anthikad, Nutrition and Biochemistry for Nurses, 1st Ed., 2009. Reference Books 1- Jaroslav Racek and Daniel Rajdl, Clinical Biochemistry, first ed, 2016	Main references (sources)

2- Herbert Fromm and Mark Hargrove, Essentials of Biochemistry, 2012 3- Vijay Kumar Kiran Dip Gill, Basic Concepts in Clinical Biochemistry: A Practical Guide, 2018 4- Uma Bhardwaj & Ravindra Bhardwa, Biochemistry for Nurses, 2012 5-DM Vasudevan, Sreekumari S & Kannan Vaidyanathan,Textbook of Biochemistry for Medical Students,2013	
Scientific journals, periodicals and research in the field	Recommended supporting books and references (scientific journals, reports….)
Science direct Google scholar	Electronic references, Internet sites

.structure The decision

road Evaluation	road education	name Unit /or the topic	Outputs Learning required	hours	the week
a test after lecture	a lecture	introduction on Chemistry life And components cell	Biochemistry Biochemistry compounds, cell.		the first
Questions quiz. quiz	a lecture	Species Carbohydrates And its classification	Carbohydrates, classification, its presence, its importance, General properties of monosaccharide's.		the second
	a lecture	Importance Sugars Unilateralism And dualism	Important monosaccharide's. Derivatives of monosaccharide's, reducing sugars. Its presence in		the third

		And multiple And mechanisms To reduce it in inside Human	human body, its reactions Disaccharides and polysaccharides properties, reactions occurrence		
	a lecture	Fats And its classification And its characteristics	Lipids, classification, properties. Fatty acids, properties, reactions		the fourth
Questions quiz. quiz	a lecture	Acids The fat the basic	Essential fatty acids and essential fatty acids. properties, reactions. Unsaturated fatty acids, properties its importance,		Fifth
	a lecture	Fats Derived And cholesterol	Compound lipids, derived lipids cholesterol, its existence		VI
	a lecture	Proteins And acids The honest one	Proteins, general properties, peptide bond. Amino acids, properties, occurrence.		Seventh
Questions quiz. quiz	a lecture	classification Acids The honest one And proteins	Amino acid, classification, reactions. Classification of proteins, chemical properties of proteins		VIII
	a lecture	Methods Season Vehicles by Chromatography	Separation of organic compounds by chromatography.		Ninth
	a lecture	Season Acids The honest one	Separation of amino acids. Examination		The tenth
Questions quiz. quiz	a lecture	Sour Al-Nawawi	Nucleic acids, nucleoprotein, analysis of nucleoprotein.		atheistic ten
	a lecture	Enzymes	Enzymes, nomenclature, classification. Enzymes, properties, factors in fleeing		the second ten

			the rate of enzymatic reactions. Enzyme,inhibitions.		
Questions quiz. quiz	a lecture	Hormones And its classificatio n And the difference on Enzymes	Hormones, properties. Classification of hormones. Protein hormones, non protein hormones		the third ten
		Vitamins	Vitamins, water soluble vitamins, classification, occurrence, deficiency.		the fourt h ten
		Vitamina Lupus in water And melted in Fats	Fat soluble vitamins, classification, occurrence, complete deficiency of vitamins.		Fifth ten

1. name The decision	
Chemistry Analytical	
2. Code The decision	
3. the chapter / the year	
2023/2024	
4. date Preparation this the description	
2/18/2024	
5. Available attendance forms	
My presence	
6. Number of study hours (total)/number of units (total)	
30 hours theoretical +60 hours =90 hours	
7. Name of the course administrator (if more than one name is mentioned)	
the name : Email :	
8. Course objectives	
At the end of the first semester, the student will have benefited from the analytical chemistry course in knowing the atom and its components, knowing matter and its types, and the law of conservation of matter and energy. The student benefited from qualitative diagnostic methods, delamination methods, measuring weight, pH level, types of sediments, and preparing solutions. He benefited from analytical chemistry in knowing the chemical tools and equipment available in the laboratory.	
9. Teaching and learning strategies	

- the explanation And clarification on road Lectures **- road an offer Materials Scientific With devices the offer Data what And a screen the offer .** **- education Self on road Preparation Reports in Laboratories Cases Pathogenesis** **- Providing students with the basics and additional topics related to the previous learning outcomes of skills, to solve practical problems** **-Applying the topics studied theoretically at the practical level in various laboratories affiliated with teaching hospitals** **- Visiting practical laboratories by academic staff**	**The strategy**

0. Course evaluation

distribution Class from 100 on according to mission Assigned With it requester like Preparation Daily And exams Daily And oral And monthly And editorial And reports ....etc

. Learning and teaching resources

Analytical chemistry book	Required textbooks (methodology, if any)
Skoog analytical chemistry **Gary analytical chemistry**	Main references (sources)
Analytical chemistry journal **Analytical Methods**	Recommended supporting books and references (scientific journals, reports….)
Science direct **Google scholar**	Electronic references, Internet sites

).structure The decision					
road Evaluation	road education	name Unit /or the topic	Outputs Learning required	hours	the week
a test after lecture	a lecture	introduction on Chemistry Analytical	Introduction to analytical chemistry Atom, elements, radio isomers pollution with radio isomers, pollution with elements Relation between atoms, molecules, energy, according to the new theory of atom.(Debroley equation). Matter, classification.		the first
Questions quiz. quiz	a lecture	Species The bonds – Methods Analysis Qualitative And quantitative	Chemical bonds, covalent, ionic, coordination, hydrogen. Methods of analysis. qualitative and quantitative, statistical Methods of quantitative analysis, errors in quantitative analysis		the second
	a lecture	Methods Expression on the focus – Solutions	Methods of expressing concentration of solution, Molar solution ,normal solution Preparation of molar solution, dilution, questions		the third

	a lecture	Balance Chemist	Percentage composition, part per million. Chemical equilibrium, ionization, constant of water (PH and POH).		the fourth
Questions quiz. quiz	a lecture	ionize Electrolyte The weak	Ionization of weak electrolyte. Calculation of PH of weak acids and weak bases. Buffer solutions, classification		Fifth
	a lecture	Solutions Pvr	Calculation of buffer solutions Uses of buffer solutions.		VI
	a lecture	classification Analysis Volumetric	Volumetric analysis, classification, standard solution, examples Neutralization reactions.		Seventh
Questions quiz. quiz	a lecture	Interactions Oxidative stress And shorthand	Oxidation and reduction reactions. examples Precipitation reactions.		VIII
	a lecture	Guide – His theory – Properties - Interactions	Theory of indicators, reaction, properties, examples , reaction , properties , examples. Types of indicators		Ninth
	a lecture	principle Chromaticity	Principles of colorimetry.		The tenth
Questions quiz. quiz	a lecture	Law Bert Lambert	Beer-lambert law.		atheistic ten
	a lecture	Solutions standard	Standard solution/calibration curve.		the second ten
Questions quiz. quiz	a lecture	Devices Measurements Chromaticity	Instruments of colorimetry.		the third ten
	Exam		Examination		the fourth

					ten
	Exam		Examination		Fifth ten