Academic Program Description Form

University Name: Al-Furat Al-Awsat Technical University Faculty/Institute: Babylon Technical Institute Scientific Department: Medical laboratory technology Academic or Professional Program Name: Medical laboratory technology Final Certificate Name: Technical diploma in medical laboratory technology Academic System: Semester Description Preparation Date: 19/2/2024 File Completion Date: 22/2/2024

Signature:

Head of Department Name: Dr. Thikra Jawad

Signature: Scientific Associate Name: Assis. Pro. Dr. Oras Khudhayer Obayes Date:

Date: 413/2024

The file is checked by: lecturer. Khansaa Azezz. Objes Department of Quality Assurance and University Performance Director of the Quality Assurance and University Performance Department: Date:

Signature:

Prof. Dr. Eman Mohammed Abdullah Dean of Bigeblastitute Babylon Jec

Approval of the Dean

1. Program Vision

The Medical Laboratories Department is one of the main scientific medical departments. It seeks to expand the base of technical education and its modern applications in its field of specialization, build a close relationship with various sectors of work, activate the role of scientific research in various fields of development, and provide technical services based on the spirit of competition and cooperation in society.

2. Program Mission

The Medical Laboratories Department is committed to disseminating scientific and technical knowledge in the field of medical laboratories to graduate medical personnel with a level of education capable of absorbing modern technologies and supporting the process of scientific and technical development to keep pace with global developments and to fulfill the following:

1. Openness to society in the field of medicine and activating relations with the private sector in medical consultations, training and technical qualification.

2. Develop future plans to develop educational and training curricula and graduate technical cadres in the field of laboratory specializations and all chemical and biological tests.

3. Focus on scientific research between academics in the department and the medical staff in the Ministry of Health to solve various problems between the Ministry of Higher Education and the Ministry of Health and develop curricula and departments in a way that is commensurate with the reality of health and medical specialties in its cadres and develop them for the better.

4. Use of computer and Internet technologies in education and training.

3. Program Objectives

The department aims to graduate technical personnel capable of working in medical laboratories, conducting routine laboratory analyses, general chemical examinations, examining urine and fluids, and operating and maintaining laboratory equipment.

4. Program Accreditation

The program has not received accreditation

5. Other external influences

The department's graduates serve the community in health institutions and hospitals and through practical application in health centers and hospitals during summer training.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution	1	2	1.4	
Requirements				
College	3	7	5.1	
Requirements				
Department	26	126	93.3	
Requirements	-			
Summer Training				Interpolation
Other				

* This can include notes whether the course is basic or optional.

7. Program Des	7. Program Description												
Year/Level	Course Code	Course Name	Credit Hours										
			theoretical	practical									
First year/first	M.L. T	Medical laboratory	2	4									
semester		techniques											
First year/first	Mic.pre	Microbial	2	3									
semester		preparation											
First year/first	M.L.I	Medical laboratory	2	2									
semester		instrument											

First year/first semester	His	Histology	2	3
First year/first semester	A.Ch	Analytical Chemistry	2	4
First year/first semester	F. of N.	Fundamentals of Nursing	1	2
First year/first semester	CA	Computer application	1	2
First year/second semester	QC	Quality control	2	4
First year/second semester	HIT	Histological techniques	2	3
First year/second semester	MB	Molecular biology	2	2
First year/second semester	La.S	Lab. Safety	1	2
First year/second semester	B.T	Blood transfusion	1	2
First year/second semester	Bioche	Biochemistry	2	4
First year/second semester	HRD	Human right and Democratic	2	-
First year/second semester	Eng.	English language	2	-
Second year/first semester	MIC	Microbiology	2	4
Second year/first semester	Hem	Haematology\1	2	4
Second year/first semester	Cl.Ch	Clinical chemistry\1	2	4
Second year/first semester	IM	Immunology	2	4
Second year/first semester	Pro	Protozoa	2	4
Second year/first semester	Vir	Virology	1	2
Second year/first semester	Me.Eth	Medical Ethics	2	-
Second year/first semester		The crimes of the Baath regime in Iraq	2	-

	1	r	r	
Second year/second	Bac.Pat	Bacterial Pathogenicity	2	4
semester				
Second year/second	Hem	Hematology\2	2	4
semester				
Second year/second	Cl.ch	Clinical chemistry\2	2	4
semester				
Second year/second	Cl. Im.	Clinical	2	4
semester		Immunology		
Second year/second	Hel	Helminthes	2	4
semester				
Second year/second	M.M	Medical Mycology	1	2
semester				
Second year/second	G.Pro	Graduation project	-	2
semester				

8. Expected learning outcomes of the program								
Knowledge								
1- Cognitive objectives	 He performs laboratory work related to isolating, staining, and examining the germs present in clinical samples. He prepares and sterilizes all agricultural media and examines food for food contamination. He performs all blood analyzes and tests. He performs urine and discharge tests and various body fluids (knee fluids, spinal fluids, sputum, semen). He prepares tissue slides for various organs of the body and prepares them for examination. He prepares all laboratory solutions. Operates and maintains medical laboratory equipment used in pathological analysis laboratories. He works in laboratory inquiries, which includes receiving forms, the blood drawing process, directing the patient, and delivering the results, as well as performing warehouse work for medical laboratory stores. 							
Skills								
Marathi objectives	 Implementing medical programs such as preparing tissue slides, culture media, and clinical laboratory tests. Skills in programs to control communicable diseases and assist the doctor in diagnosis and treatment. Scientific skill in operating laboratory equipment, caring for it, and how to maintain it. 							
Ethics								
Emotional goals	 Investigate and control some diseases by conducting laboratory tests. Conduct laboratory tests for all samples, diagnose pathological cases, and prepare tissue slides. Assisting in treating patients and dispensing medicine to them. The ability to operate laboratory equipment and how to maintain it. Daily, quarterly and annual theoretical and practical tests and daily discussion. Discussing quarterly and annual scientific research, reports, and through scientific seminars. 							

9. Teaching and Learning Strategies

- 1. Theoretical lecture method.
- 2. Practical lecture method.
- 3. Method of discussion and dialogue

10. Evaluation methods

- . Daily testing.
- 2. Semester test.
- 3. Annual testing.
- 4 . Discussing quarterly and annual research

11.Faculty					
Faculty Members					
Academic Rank	Specialization	I	Special Requirements/Skills (if applicable)	Number of t staff	he teaching
	General	Special		Staff	Lecturer
professor	biology	biotechnology			
lecturer	Veterinary medicine and surgery	Medical parasitology		λ	
Lecturer(2)	Medical microbiology	bacteriology		N	
lecturer	Medical microbiology	Virology			
lecturer	chemistry	general chemistry			
lecturer	Biological resistance	mycology			
lecturer	biology	Physiology		\checkmark	
lecturer	Veterinary medicine	Physiology			
Lecturer (4)	biology	microbiology			
assistant lecturer (4)	biology	microbiology		\checkmark	
assistant lecturer	biology	mycology		\checkmark	

assistant lecturer	microbiology	Medical parasitology		
assistant lecturer	Chemistry	analytical chemistry		
assistant lecturer	Veterinary medicine and surgery	Medical physiology		

Professional Development

Mentoring new faculty members

New members of the department are developed by introducing them to teaching methods courses, conducting a teaching suitability test for them, and holding a training course, seminars, and workshops to train them in the approved work contexts.

Professional development of faculty members

Faculty members are developed by holding training courses, seminars and workshops to train them in approved work contexts.

12. Acceptance Criterion

Central admission to the Ministry of Higher Education and Scientific Research

13. The most important sources of information about the program

- 1- Methodical books
- 2- Supporting sources
- 3-General sources
- 4- The Internet.

14.Program Development Plan

Future plans to develop the department include establishing laboratories (molecular laboratory), as well as developing the curriculum by deleting, adding, and replacing.

			Р	rogram	n Skills	s Out	line								
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge			Skills				Ethics	Ethics			
			-	A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
	M.L.T	Medical Laboratory Techniques	Basic	V	V	V	V		V	\checkmark	V	\checkmark		V	\checkmark
First year	Mic.pre	Microbial preparation	Basic	V	V	V		V	V	V	\checkmark	V		V	V
	M.L.I	Laboratory Instrument	Basic				\checkmark			\checkmark	\checkmark	\checkmark		\checkmark	\checkmark
	His	Histology	Basic					\checkmark	\checkmark	\checkmark		\checkmark			\checkmark
	Ana.Ch	Analytical Chemistry	Basic		\checkmark	V	\checkmark			\checkmark	\checkmark	\checkmark		\checkmark	\checkmark
	F. of N.	Fundamentals of Nursing	optional	V	\checkmark	V		V	V	\checkmark	V		V	\checkmark	\checkmark
	СА	Computer application	optional		\checkmark	V				V	\checkmark		\checkmark	\checkmark	
	QC	Quality control	Basic			\checkmark	\checkmark			\checkmark	\checkmark	\checkmark		V	\checkmark

	His.&Cyto	Histological & Cytological Techniques	Basic	\checkmark		V		V		\checkmark				V	V
First year	M.B	Molecular biology	Basic			V		V	V	V		V		V	\checkmark
	Lab.S	Lab. Safety	Basic					\checkmark						\checkmark	\checkmark
	B.T	Blood Transfusion	Basic	\checkmark	V	V	V	V	\checkmark	V	V	V			
	Bioch	Biochemistry	Basic			V	\checkmark	V		\checkmark	\checkmark	\checkmark		V	\checkmark
	HRD	Human right and Democratic	optional	\checkmark	\checkmark	V	\checkmark	V	V	\checkmark	\checkmark			V	V
	Eng.	English language	optional						\checkmark					\checkmark	\checkmark
Second year	Mic	Microbiology	Basic		\checkmark	V		V	V	V		\checkmark		\checkmark	
	Hem	Haematology\ 1	Basic	\checkmark		\checkmark	\checkmark	V	V			V	V		V
	CL.che	Clinical chemistry\1	Basic	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark				V		\checkmark	
	Im	Immunology	Basic			V		V	V	V		V	V		

Second year	Pro	Protozoa	Basic	\checkmark		\checkmark		\checkmark	\checkmark	\checkmark	V	V		\checkmark	\checkmark
	Vir	Virology	Basic	V	V	V	\checkmark	V		\checkmark	V	V	V		
	Med. Eth	Medical Ethics	optional	V	V	1		V	V	V	V	V		V	
	Bac. Pat	Bacterial Pathogenicity	optional	V		V	\checkmark	\checkmark	\checkmark	\checkmark		V			
		The crimes of the Baath regime in Iraq	Basic	\checkmark		\checkmark		\checkmark		\checkmark	\checkmark			\checkmark	
	Hem 2	Hematology\2	Basic	\checkmark	\checkmark	\checkmark		\checkmark		\checkmark	V	V		\checkmark	
	Cl.che	Clinical chemistry\2	Basic	V		V	\checkmark	V	V			V			
	Cl. Im	Clinical Immunology	Basic	V	V	V		V				V		V	V
	Hel	Helminthes	Basic	V	\checkmark	\checkmark	\checkmark	V	\checkmark		V	\checkmark	\checkmark		\checkmark
	M.M	Medical Mycology	Basic	V	\checkmark	V	\checkmark	V	V			V	V		
	Gra.p	Graduation project	optional	\checkmark	V	V	\checkmark	V	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	V	V	V		V

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

First year/first semester

\mathbf{C}

		Course De	escription Form		
1. Co	ourse Nar	ne: Medical laboratory	y techniques		
-			· · · · · ·		
2. Co	ourse Cod	le: M.L.T			
3. Se	emester / `	Year: Semester			
	• .•				
4. De	escription	Preparation Date: 19/2	2/2024		
5 4	vailable A	ttendance Forms. Lec	rtures		
J. A		Attendance Pornis. Lee			
6. Ni	umber of	Credit Hours (Total) /	Number of Units (To	otal)	
	90 hours/	6 units	X	,	
7. Co	ourse adm	inistrator's name (mer	ntion all, if more than	one name)	
-	Name: Al	i dhaher marhash			
-	Email: ali	.dhaher@atu.edu.iq			
<u> </u>					
δ . Course	Objectives	ectives	• Ident	ify laboratory equip	pent and mater
Course	Objectives		• Ident used	in experiments.	ient and mater
			• Learn	n about the basis of mi	crobiology.
0 5			• Learn	n about bacteriology	
9. Te	aching ai	id Learning Strategies			
Strategy	, ,	Theoretical lag	otura mathad		
		Theoretical least	no mothod		
		Fractical fecture			
		Method of disc	cussion and dialogue		
10. Co	ourse Stru	icture			
Week	Hours	Required Learning	Unit or subject name	Learning	Evaluation
2.1	2	Outcomes	Madical lab	method Theoretical	method Doily
3-1	2	Introduction to Medical lab	Medical lab.	lecture method	Daily testing
		Techniques	rechniques	Practical lecture	Quarterly
		includes		method	test.
		menudes		Method of	Discussing
		- Identify the		discussion and	quarterly
		various laboratory		dialogue	and annual
		glasses and how to			research
		deal with			
		lahoratorry			
		raboratory			
		methods.			

		- Sterilization.			,
		Identify ways of			1
		cleaning,			i -
		sterilization and			i
		disinfectant by			i -
		physical. chemical			i -
		and mechanical			i -
		means. Identify			i
		different			i
		sterilization			i -
		equipment and			i -
		materials used in			i
		chemical			i
		sterilization A full			i
		review of the basic			i
		techniques that use			i
		in the diagnosis of			i
		hacteria blood, and			i -
		clinical chemistry.			i -
		Laboratory safety			i -
		and how to avoid			i
		accidents and			i
		errors that are			i -
		inadvertently			i
		laboratory in a			i -
		laboratory (first			i
		aid biochemical			i -
		hazards and			i
		biological hazards).			i
		and biological and			1
		chemical safety.			i
4	2	Samples collection	Samples collection	Theoretical	Daily
т		and handling	andhandling	lecture method	testing.
		Samples collection	unununung	Practical lecture	Quarterly
		for different lab.		method	test.
		Investigations.		Method of	Discussing
		samples transport.		discussion and	quarterly
		samples		dialogue	and annual
		preparation.			research
5	2	Culturing of	Culturing of	Theoretical	Daily testing
5	4	microorganism:-	microorganism	lecture	Quarterly te
		types of Culture	Ŭ	Practical lecture	Discussing
		media, different		Method of	quarterly
		samples used for		discussion and	and annual
		culture, bacterial		dialogue	research
		growth curve, MO			1
		abaraatarization	1 ,	1 1	i i i i i i i i i i i i i i i i i i i

		(chemical tests for MO identification)			
6	2	Urine samples: Urine formation, Properties of urine, chemical and physical investigations, microscopic examination.	Urine samples	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
7	2	Stool sample: formation, properties, culture, general examination.	Stool sample	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8	2	Seminal Fluid: Formation, organs of reproductive tract, characterization of semen fluid, investigations that used on seminal fluid examination, fructose test, antisperm antibody (serum and semen). Total sperm count in Neubar chamber. Types of normal and abnormal of Sperms character with study the way of writing the final report.	Seminal Fluid	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	2	Agglutination techniques	Agglutination techniques	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10	2	-Enzyme-linked immunosorbent assay (ELISA)	Advance techniques	Theoretical lecture Practical lecture	Daily testing. Quarterly test.

		principle, applications		Method of discussion and dialogue	Discussing quarterly and annual research
11	2	Radioimmunoassay (RIA) principle, applications	Radioimmunoassay (RIA)	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12	2	Immunofluoresence technique	Immunofluoresence technique	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
13	2	Polymerase chain reaction (PCR), types principle, applications	PCR	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
14	2	Real-time PCR	Real-time PCR	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
15	2	Review		Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
11.Co Course E	urse Ev Evaluatio	aluation n: the evaluation method i	s as follows: 15% for th	e practical exam and	25% for the
exam and	a exam t d 35% fo	r the theoretical exam	110111 40%. As for the fin	ai exaiii, it is 25% foi	me practical
12.Lea	arning a	nd Teaching Resource	S Levensons and	applied microbiolog	σv
				- opplied interotion	<i>JJ</i>

Main references (sources)	Medical microbiology, sterilization text book
Recommended books and references (scientific	Diagnostic microbiology , basic medical
journals, reports)	mirobiology
Electronic References, Websites	FUNDAMENTALS of MICROBIOLOGY
	ASM microbiology society

13.Co	13.Course Name: Microbial preparation						
14.Co	ourse Code	: Mic.pre					
150							
15.Se	emester / Y	ear: Semester					
16 D	• .• •		12024				
16.De	escription I	Preparation Date: 19/2	/2024				
17 4	usilable At	tandanaa Farma I aat					
17.A	vallable Al	tendance Forms: Lect	ures				
18 N	umber of (Tradit Hours (Total) /]	Number of Units (To	tal)			
10.1	$\frac{111001 01 01}{90 \text{ hours/6}}$	units	Number of Onits (10	(al)			
19 Co	ourse admi	nistrator's name (men	tion all if more than	one name)			
17.00	Name :Dua	a hassan hadi		one nume)			
	Email: dua	a.hadi.iba13@atu.edu	i.ia				
			1				
20.Co	ourse Obje	ctives					
Course	Objectives		• Lear	n how to prepare and	prepare slides		
			from	different body	parts For		
21 Te	eaching and	l Learning Strategies	exail	ination purpose.			
Strategy	y						
		• Theoretical le	cture method.				
		Practical lecture	re method				
		• I factical feetu					
		• Method of dis	cussion and dialogue				
22. C	ourse Struc	ture					
Week	Hours	Required Learning	Unit or subject name	Learning	Evaluation		
		Outcomes	-	method	method		
1	2	Definition of some	Definition of some	Theoretical	Daily		
		terminology that	terminology	Practical lecture	testing. Quarterly		
		deals with histology,		method	test.		
		cytology, etc.		Method of	Discussing		
				discussion and	quarterly		
				dialogue			

					and annual research
2	2	Sample collection, biopsy, and autopsy.	Samples collection	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
4-3	2	Steps of preparing tissue for study, fixation, fixatives.	Steps of preparing tissue	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
6-5	2	Routine fixatives and special fixatives.	Routine fixatives and special fixatives.	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
7	2	Washing, solution , time .	Washing, solution , time .	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8	2	Dehydration , dehydrants .	Dehydration , dehydrant	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	2	Clearing ,clearing agents	Clearing ,clearing agents	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10	2	Infiltration ,types of waxes	Infiltration	Theoretical lecture Practical lecture	Daily testing. Quarterly test.

		Γ	1					
						Method	of	Discussing
						discussion	and	quarterly
						dialogue		and annual
								research
11	2	blocking and trimming	blockin	g	and	Theoretical		Daily
			trimmin	ıg.		lecture		testing.
						Practical lec	ture	Quarterly
						Method	of	test.
						discussion	and	Discussing
						dialogue		quarterly
								and annual
10		2.61						research
12	2	Microtomes,	Microto	omes,		Theoretical		Daily
		Sectioning.	Section	ing.		lecture		testing.
						Practical lec	ture	Quarterly
						Method	of	test.
						discussion	and	Discussing
						dialogue		quarterly
								and annual
1/12	2	Doviou				Theoretical		Deily
14-13	2	Kevlew				lacture		Daily
						Drastical loa	turo	Quartarly
						Method	of	Quarterry
						discussion	and	Discussing
						dialogue	anu	quarterly
						ulalogue		and annual
								research
15	2		Finaley	xam		Theoretical		Daily
	2		1 11101 01			lecture		testing.
						Practical lec	ture	Ouarterly
						Method	of	test.
						discussion	and	Discussing
						dialogue		quarterly
						U		and annual
								research
23. Co	ourse Evalua	tion: the evaluation method	od is as fo	ollows: 15	% for	the practical	exam	and 25% for
the	e theoretical	exam to extract the annu	al effort	from 40%	. As f	or the final e	xam,	it is 25% for
the	e practical ex	am and 35% for the theo	retical ex	am.				
24.Le	earning and	1 Teaching Resources						
Require	d textbooks	(curricular books, if any)		Theory a	and pra	actice of hist	ologic	al technique
				by Bancr	oft		C	*
Main re	ferences (so	urces)		Relying	g on s	ources on th	ne Int	ternet
Recomm	nended boo	oks and references (so	cientific	Scientif	ic io	irnals, and	resea	arch in this
journals	, reports)			field				
Flectror	ic Reference	es Websites		lielu Coogle scholer				
				Google	seno	ial		

		Course Descri	ption Form					
25.C	ourse Na	me: Medical laboratory inst	rument					
	~							
26.C	ourse Co	de: M.L.I						
27.Se	emester /	Year: Semester						
		Duran a mati a m Data 10/2/202	1					
28.D	escription	h Preparation Date: 19/2/202	24					
29.A	vailable A	Attendance Forms: Lectures	1					
	.,							
30.N	umber of	Credit Hours (Total) / Num	ber of Units (Total)					
	90 hours/	/6 units						
31.C	ourse adn	ninistrator's name (mention	all, if more than one r	name)				
	Name: E	ntesar marzook hussain						
	Email: er	ntesar.hussain@atu.edu.iq						
22 0	ourse Oh	iantiwas						
52.C	Ourse OD	jectives	• Lear	n how to us	e laboratory			
course	Objectives		equi	pment.	se incontaiony			
			• Iden	tify the parts	of laboratory			
			equi	pment.	ain laboratory			
			equi	pment.				
33.T	eaching a	nd Learning Strategies						
Strateg	У	• Theoretical lecture i	method.					
		Practical lecture me	thod.					
		• Method of discussion	on and dialogue					
	~		-					
34. C	ourse Str			T	E			
week	Hours	Required Learning Outcomes	Unit or subject name	Learning	Evaluation			
1	2	MICROSCOPES	MICROSCOPES	Theoretical	Daily			
		Uses, main parts ,principle		lecture	testing.			
		of work ,kinds, types of		method	Quarterly			
		condensers, operation,		Practical	test.			
		cleaning, service and		lecture	Discussing			
		maintenance		method Motheral of	quarterly			
				discussion	anu annual			
				and	research			
				dialogue				
	I			uluioguo				

		1		•	
2	2	. BALANCES Uses ,types of balances ,main part ,principle of operation ,operation ,service and maintenance .	BALANCES	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
3	2	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.	HOTOMETRY	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
4	2	FLAME PHOTOMETRY Introduction , Uses ,main parts , types , atomizers ,principle of operation ,operation and maintenance.	FLAME PHOTOMETRY	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
5	2	ATOMIC ABSORPTION SPECTROPHOTOMETERY Introduction ,uses , types, main parts , principle of operation ,operation and maintenance.	Atomic absorption spectrophotometery	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual resear
6	2	CENTRIFUGES Uses , types, main parts , principle of operation ,operation and maintenance.	. CENTRIFUGES	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
7	2	AUTOCLAVES Introduction ,uses , types, main parts , principle of	AUTOCLAVES	Theoretical lecture	Daily testing.
		18			

		operation , sterilization, operation and maintenance		Practical lecture Method of discussion and	Quarterly test. Discussing quarterly and annual
	I			dialogue	research
8	2	PH METERS	PH METERS	Theoretical	Daily
	l	Uses, types, main parts		lecture	testing.
	I	,electrodes, principle of		Practical	Quarterly
	l	operation ,operation and		lecture	test.
	I	maintenance		Method of	Discussing
	I			discussion	quarterly
	l			and	and annual
	 	!		dialogue	research
9	2	MICROTOMES	MICROTOMES	Theoretical	Daily
	l	Uses, types, main parts		lecture	testing.
	I	,sharpeners, principle of		Practical	Quarterly
	I	operation ,operation and		lecture	test.
	l	maintenance.		Method of	Discussing
	l			discussion	quarterly
	l			and	and annual
10				dialogue	research
10	2	. ELECTROPHORESIS	ELECTROPHORESIS	Theoretical	Daily
	l	Uses, types, main parts,		lecture Draatical	testing.
	I	principle of operation		lacture	Quarterry
	I	,operation		Mathad of	Discussing
	l	and maintenance.		discussion	Discussing
	l			and	and annual
	l			dialogue	research
11	2	HEATING INSTRUMENTS	HEATING	Theoretical	Daily
	-	(WATER BATHS , OVEN &	INSTRUMENTS	lecture	testing.
	l	INCUBATION)	(WATER BATHS	Practical	Quarterly
	l		,OVEN &	lecture	test.
	l	Uses , types, main parts	INCUBATION)	Method of	Discussing
	l	thermostats, principle of		discussion	quarterly
	l	operation ,operation and		and	and annual
	l	maintenance.		dialogue	research
12	2	Water Purification	Water Purification	Theoretical	Daily
	l	(Distillators & Deaionizers)		lecture	testing.
	I	Distillator ,deionizers, uses,		Practical	Quarterly
	l	main parts, operation and		lecture	test.
	l	maintenance		Method of	Discussing
	I			discussion	quarterly
	l			and	and annual
10	<u> </u>			dialogue	research
13	2	AUTOANALYZERS	AUTOANALYZERS	Theoretical	Daily
	I	Introduction ,uses , types,		lecture	testing.
	I	main parts, principle of		Practical	Quarteriy
	l	operation ,operation and		lecture	test.
	L	maintenance			
		19			

					Method of	Discussing
					discussion	quarterly
		l			and	and annual
					dialogue	research
14	2		Review			
15	2		Final ex	am	Theoretical	Daily
Í Í		l			lecture	testing.
ĺ		l			Practical	Quarterly
		l			lecture	test.
		l			Method of	Discussing
		l			discussion	quarterly
		l			and	and annual
					dialogue	research
35.C	ourse Eva	aluation				
Course	Evaluation	: the evaluation method is as	follows: 15	5% for the practi	cal exam and	25% for the
theoreti	cal exam to	o extract the annual effort from	140%. As f	or the final exam	i, it is 25% for	the practical
exam an	nd 35% for	the theoretical exam.				
36.L	earning a	nd Teaching Resources				
Require	ed textbook	as (curricular books, if any)		Laboratory Instrument		
-		`				
Main re	eferences (s	sources)		book Laboratory I	nstrument	
Recom	mended bo	oks and references (scientific	c journals,	1- book specializin	ng in medical dev	vice technology
reports.)			/ medical calibrat	ion devices, edit	ion 1429 AH /
				Kingdom of Saudi	i Arabia. General A	uthority for
				Standardization a	nd Quality / Me	asurement and
				Calibration Dep	artment / Me	edical Device
				Calibration Laboratory.		
				-3 Research by Pro	ofessor Nazih Shu	uja Al-Othmani
				/ Associate Profe	ssor, Departmer	nt of Electrical
				A Rook of me	gineering - Biom	edical.
				medical devices /	author Munther (Odeh Al Kaabi.
				ed.		, , , , , , , , , , , , , , , , , , ,
Electron	nic Referer	nces, Websites				
				https://www.amaz	on.com/Medical	
l				Laboratory Instrur	nent	
L						
			amintion '	Form		
		Course Des	cription	FOIII		
37.C	ourse Nai	ne: Histology				

38.Course Code: His

39.Semester / Year: Semester

40.Description Preparation Date:19/2/2024

41 Av	vailable Att	endance Forms. Lecti	Irec					
71.11		cildance i orms. Leen						
42.Number of Credit Hours (Total) / Number of Units (Total)								
7	75 hours/5	units						
43.Co	ourse admir	nistrator's name (ment	ion all, if more th	an one name)				
l	Name: Saral	h Abdulkareem Mukheef						
I	Email: sarah	n.mukheef@atu.edu.iq						
11 C		<i></i>						
44.00 Course (Ourse Objectives	ctives	• K	nowledge of the compone	nts and tissue			
	objectives		• K of	all organs in the body.				
			• K	nowing the samples throu	ugh dissectin			
45 To	aching and	Larming Stratagiag	SC	ome of the body's organs.				
43.10 Strategy		• Theoretical la	cture method					
on aregy								
		Practical lecture	ire method.					
		Method of dis	scussion and dialo	gue				
46 Co	ourse Struc	ture						
Week	Hours	Required Learning	Unit or subject	Learning method	Evaluation			
		Outcomes	name		method			
3-1	2	Shape of cell	Shape of cell	Theoretical lecture	Daily			
				Practical lecture	testing. Quarterly			
				method	test.			
				Method of	Discussing			
				discussion and	quarterly			
				dialogue	and annua			
4	2	Epithelial tissue –	Epithelial tissue	Theoretical lecture	Daily			
-		simple epith. T.		method	testing.			
				Practical lecture	Quarterly			
				Method of	test. Discussing			
				discussion and	quarterly			
				dialogue	and annua			
-					research			
5	2	Epithelial tissue-	Epithelial tissue	Theoretical lecture	Daily			
		Suamed epith. 1.		Method of	Quarterly			
				discussion and	test.			
				dialogue	Discussing			
					quarterly			
					and amoura			
					and annua research			
6	2	Connective tissue –	Connective tissue	Theoretical lecture	and annua research Daily			

		Connective tissue	Connective tissue	Practical lecture method Method of discussion and dialogue	Quarterly test. Discussing quarterly and annual research
	2	dense co. t	Connective tissue	method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8	2	Connective tissue –the blood	Connective tissue	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	2	Connective tissue – compact bone	Connective tissue	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10	2	External feature of digestive system	digestive system	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
11	2	Urogenital system of male ♀	Urogenital system	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12	2	Liver	Liver	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test.

13	2	Spleen	Spleen		Theoretical lecture	Discussing quarterly and annual research Daily	
					Method of discussion and dialogue	Quarterly test. Discussing quarterly and annual research	
14	2	Lymph node	Lymph	node	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research	
15	2	Circulatory system (Artery)		Circulatory system	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research	
47.Course theoretic exam an	47 .Course Evaluation: the evaluation method is as follows: 15% for the practical exam and 25% for the theoretical exam to extract the annual effort from 40%. As for the final exam, it is 25% for the practical exam and 35% for the theoretical exam						
Required	Required textbooks (curricular books if any)						
Main ref	Main references (sources)			Atlas of H	uman Histology		
Recomm journals,	nended bool , reports)	ks and references (sc	ientific	Scientific field	journals and resea	arch in the	
Electron	ic Reference:	s, Websites		Google scl	holar		

47.Co	47.Course Name: Analytical Chemistry				
48.Co	ourse Code:	A.Ch			
19 Se	mester / Ve	ar: Semester			
50.De	scription P	reparation Date: 19/2/2	2024		
	-	*			
51.Av	ailable Att	endance Forms: Lectu	ires		
50 Nu	mbar of Cr	adit Hours (Total) / N	lumbor of Units (T	lotol)	
32.INU	1110000000000000000000000000000000000	units	fumber of Units (1	otal)	
53.Co	ourse admin	istrator's name (menti	on all, if more that	n one name)	
1	Name: Raw	aa Raheem	,	/	
ŀ	Email: <u>rawa</u>	araheem94@gamil.co	<u>om</u>		
54.Co	ourse Objec	tives		• • • • •	
	Jojecuves		 It condifiered It difiered It difiered The choice La 	npounds and the abili- ferent chemical expe- ctions. It is possible to make ferent concentrations of e ability to work we emical reagents. boratory equipment can	ty to conduct eriments and and prepare solutions. with different be used.
55.Te	aching and	Learning Strategies			
Strategy		Theoretical lease	cture method.		
		Practical lectu	re method.		
		• Method of dise	cussion and dialog	ue	
56. Co	ourse Struct	ure			
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
3-1	2	Introduction to analytical chemistry Atom , elements, radio	analytical chemistry .	Theoretical lecture method	Daily testing.
			24		

		isomers pollution with radio isomers , pollution with elements . Relation between atoms, molecules ,energy, according to the new theory of atom.(Debroley equation). Matter , classification.		Practical lecture method of Method of discussion and dialogue	Quarterly test. Discussing quarterly and annual research
4	2	Chemical bonds, covalent ,Ionic , coordination , hydrogen. Methods of analysis . qualitative and quantitative ,statistical methods of quantitative analysis, errors in quantitative analysis .	Chemical bonds	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
5	2	Methods of expressing concentration of solution , Molar solution , normal solution . Preparation of molar solution , dilution , questions.	Methods of expressing concentration of solution ,	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly ter Discussing quarterly and annual research
6	2	Percentage composition, part per million. Chemical equilibrium, ionization, constant of water (PH and POH).	Percentage composition	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly ter Discussing quarterly and annual research
7	2	Ionization of weak electrolyte . calculation of PH of weak acids and weak bases. Buffer solutions , classification .	Ionization of weak electrolyte	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8	2	Calculation of buffer solutions . Uses of buffer solutions.	Calculation of buffer solutions .	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly

					and annual research
9	2	Volumetric analysis , classification , standard solution , examples . Neutralization reactions .	Volumetric analysis	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10	2	Oxidation ,reduction reactions . examples. Precipitation reactions.	Oxidation ,reduction reactions .	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
11	2	Precipitation reactions. Theory of indicators, reaction, properties ,examples. Types of indicators. Questions, homework	Precipitation reactions.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12	2	Principles of colorimetry	Principles of colorimetry	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
13	2	. Beer-lambert law .	Beer-lambert law .	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
14	2	Standard solution/calibration curve	Standard solution	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research

15	2	Instruments	of	Instruments	Theoretical lecture	Daily
		colorimetry		colorimetry	Practical lecture	testing.
					Method of	Quarterly
					discussion and	test.
					dialogue	Discussing
						quarterly
						and annual
						research
59 .Cour	se Evaluatior	n: the evaluation m	nethod is as fol	lows: 15% for	the practical exam an	d 25% for the
theoretic	theoretical exam to extract the annual effort from 40%			. As for the fin	nal exam, it is 25% for	the practical
exam an	d 35% for the	e theoretical exam	l			
60.Lea	rning and T	Ceaching Resou	rces			
Required textbooks (curricular books, if any)						
Main references (sources)			Fundamentals of Analytical Chemistry			
Recomm	Recommended books and references (scientific			Scientific journals and research in the		
journals	, reports)			field	-	
Electron	Electronic References, Websites			Google scl	holar	

57.Course Name: Fundamentals of Nursing	
58.Course Code: F. of N	
59.Semester / Year: Semester	
60.Description Preparation Date:19/2/2024	
61. Available Attendance Forms: Lectures	
62.Number of Credit Hours (Total) / Number of	of Units (Total)
45 hours/3 units	
63.Course administrator's name (mention all, in	f more than one name)
Name: Salwa Ahmed Hamza	
Email: salwa.al-karadi@atu.edi.iq	
64.Course Objectives	
Course Objectives	• Learn about the basics of nursing and first aid.
	• Laboratory and occupational safety in the nursing field.
	• Ways to interact with the patient through
	his presence in medical laboratories.
65. Teaching and Learning Strategies	
27	

Strategy		Theoretical lectPractical lectuMethod of disc	cture method. re method. cussion and dialo	gue	
66. Co Week	ourse Struc	cture Required Learning	Unit or subject	Learning method	Evaluation
WCCK	Hours	Outcomes	name	Learning method	method
1	1	Introduction to nursing	Introduction to nursing	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
2	1	Medical examination	Medical examination	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
3	1	Vital signs, temperature measurement,	Vital signs,	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testin Quarterly te Discussing quarterly and annual research
4	1	Pulse, definition, factors that effecting pulse, measurement of pulse	Pulse	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testin Quarterly te Discussing quarterly and annual research
5	1	Respiration, definition, factors that effecting respiration, measurement of respiration	Respiration	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
6	1	Blood pressure, definition, factor the effecting blood pressure, hyper and	Blood pressure	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly

		hypotension, measurement of blood pressure			and annual research
7	1	Health care, definition, factors effecting health care	Health care	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8	1	Chemical factors- disease	Chemical factors- disease-	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	1	Psychological factors- diseases	Psychological factors-diseases	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12-11	1	Biological factors- types-their effects on workers in Lab diseases	Biological factors	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
14-13	1	First aid- definition, paramedic, fundamental of first aid, wound, .bleeding	First aid	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
15	1	Burns- types of fracture aid- artificial respiration	Burns	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research

67.Course Evaluation: the evaluation method is as follows: 15% for the practical exam and 25% for the theoretical exam to extract the annual effort from 40%. As for the final exam, it is 25% for the practical exam and 35% for the theoretical exam.

68.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	Basic Clinical Nursing Skills
Recommended books and references (scientific	Scientific journals and research in the
journals, reports)	field
Electronic References, Websites	Google scholar

69.Course Name: Computer Applications					
70.Co	ourse Code:	C.A			
71.5	Semester / Y	lear: Semester			
72.1	Description	Preparation Date: 19/2	2/2024		
70	A '1 1 1 A				
73.1	Available A	ttendance Forms: Lec	tures		
$74 \mathbf{N} = 1 (7 + 1) (7 + 1) (7 + 1)$					
/4.1	Number of $\sqrt{15}$ house $\sqrt{2}$	redit Hours (10tal) /	Number of Uni	ts (10tal)	
75	+5 nours/5 l	inistrator's name (mar	tion all if more	then one name)	
/3.0	Jome: Suff	Mohammad Monii		(mail one name)	
	Smail: inh s	vffi10@atu edu i			
76 ($\frac{2 \text{ man. mb.s}}{2 \text{ ourse Obj}}$	yiiiio@atu.cuu.i			
Course	Objectives		• T	ne student will be able to	o interact with
	U		th	e computer.	
			• B	e familiar with computer	uses.
			• U	nderstand how to u	ise computer
			SC	ftware.	
77.	Feaching ar	d Learning Strategies			
Strategy		Theoretical lease	cture method.		
		Practical lecture	re method		
	• Fractical fecture method.				
		• Method of dis	cussion and dial	ogue	
78. Co	ourse Struct	ure			
Week	Hours	Required Learning	Unit or subject	Learning method	Evaluation
		Outcomes	name		method
			30		
			30		

1	1	An introduction to computers: their generations - their components: hardware and software - (system software and application programs)	Knowledge of computer components	Theoretical lecture method Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
2	1	MS-DOS operating system: The concept of the operating system - the system signal - disks - directories, their levels and files - internal operating system commands - and external commands (the most commonly used commands).	MS-DOS operating system.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
3-12	1	Internal operating system commands: Internal commands: Dir – Del – Time – Date – Cls – RD – CD – MD – Echo – Ren – Copy – Vol – Ver – Path	Internal operating system commands	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
13-15	1	Windows operating system: The concept of the Windows system - its advantages - its basic requirements - operating the system - components of the main desktop screen - the concept of the icon - the method of dealing with mouse activities - the importance and components of the Task Bar - utilizing Start to enter	Windows	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
79.Co the the	urse Evaluati theoretical e practical exa	on: the evaluation method exam to extract the annua and 35% for the theore	t is as follows: 15% l effort from 40%. A etical exam.	for the practical exam As for the final exam,	and 25% for it is 25% for
80.Le Required Main ref	arning and d textbooks (of ferences (sour	Teaching Resources curricular books, if any) rces)			
L			21		

Recommended books and references (so journals, reports)	ntific Scientific journals and research in the field
Electronic References, Websites	Google scholar

81.Course Name: Quality control								
82 Course Code: O C								
02.00								
83.5	83 Semester / Year: Semester							
84.Description Preparation Date: 19/2/2024								
85.A	85.Available Attendance Forms: Lectures							
86.1	86.Number of Credit Hours (Total) / Number of Units (Total)							
9	90 hours/6 u	inits						
87.0	Course adm	inistrator's name (mer	ntion all, if more	than one name)				
1	Name: Ali.d	lhaher@atu.edu.iq						
H	Email: ali.dh	aher@atu.edu.iq						
88.0	Course Obje	ectives						
Course (Objectives		• Ide	entify laboratory equ	ipment and			
			ma	terials used in experimen	ts.			
			exa	amine urine.	and now to			
	• How to control quality.							
	- How to control quanty.							
89.7	reaching an	d Learning Strategies						
Strategy	• Theoretical lecture method.							
	Practical lecture method.							
	Method of discussion and dialogue							
90. Course Structure								
Week	Hours	Required Learning	Unit or subject	Learning method	Evaluation method			
1	2	Intoduction to quality	quality control	Theoretical lecture	Daily			
		control		method	testing.			
				Practical lecture	Quarterly			
				method Mathad	test.			
				discussion and	ouarterly			
				dialogue	and annual			
					research			

·		1	1	1	
2	2	Medical relevent of QA, Standarded units of the international system	Medical relevent of QA	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
3-4-5	2	Balancing error detection and false rejection	Balancing error detection and false rejection	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
6-7	2	Quality control materials	Quality control materials	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
8	2	QA techniques for quantitative results	QA techniques	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	2	QA techniques for qualitative results	QA techniques	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10	2	QA techniques for semi-quantitative results	QA techniques	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
11	2	Troubleshoot based on QA results	Troubleshoot	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly

					and annual		
					research		
-13-	2		Review	Theoretical lecture	Daily		
12-14				Practical lecture	testing.		
				Method of	Quarterly		
				discussion and	test.		
				dialogue	Discussing		
					quarterly		
					and annual		
					research		
15	2		Final exam	Theoretical lecture	Daily		
				Practical lecture	testing.		
				Method of	Quarterly		
				discussion and	test.		
				dialogue	Discussing		
					quarterly		
					and annual		
					research		
91.Course Evaluation: the evaluation method is as follows: 15% for the practical exam and 25% for							
the	theoretical e	exam to extract the annual of	effort from	40%. As for the final exam,	it is 25% for		
the	practical exa	am and 35% for the theoreti	ical exam.				
92.Learning and Teaching Resources							
Required textbooks (curricular books, if any)			Leve	Levensons and applied microbiology			
Main references (sources)			Med	Medical microbiology, sterilization text book			
Recommended books and references (scientific			tific Diag	Diagnostic microbiology , basic medical			
journals, reports)			miro	mirobiology			
Electronic References, Websites			FUN	FUNDAMENTALS of MICROBIOLOGY و			
			ASM	ASM microbiology society			

93.Course Name: Histological techniques
94.Course Code: HIT
95.Semester / Year: Semester
96.Description Preparation Date:19/2/2024
97. Available Attendance Forms: Lectures
98.Number of Credit Hours (Total) / Number of Units (Total)
90 hours/6 units
99.Course administrator's name (mention all, if more than one name)
Name: Duaa Hassan Hadi

	Email: dua	a.hadi.iba13@atu.edu.	iq					
100	. Cou	rse Objectives	•					
Course Objectives • Learn how to pr from different bo					arn how to prepare a m different body part	nd dye slides ts.		
101	. Teac	ching and Learning Stra	ategies					
Strategy	7	Theoretical lecture method.						
		Practical lecture method.						
		• Method of dis	cussion and d	dialog	gue			
102.Co	ourse Struc	cture						
Week	Hours	Required Learning Outcomes	Unit or subjename	ect 1	Learning method	Evaluation method		
1	2	Introduction to molecular biology	Mounting Adhesives	, , , , , , , , , , , , , , , , , , , ,	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research		
2-3	2	Staining , classification of stains	Staining		Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research		
4-5	2	Staining section	Staining section		Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testin Quarterly te Discussing quarterly and annual research		
6	2	Methods of staining .	Methods staining.	of	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly te Discussing quarterly and annual research		
8-7	2	Types of stains , preparation of stain and oxidation of some stains .	Types of stain	ns. '	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly		
						and annual		
--	---------------	---------------------------	----------	--------------	-------------------------	---------------		
						research		
9	2	Stains solvents, factors	Stains	s solvents.	Theoretical lecture	Daily		
		affecting staining,			Practical lecture	testing.		
		storage of stains, how			Method of	Quarterly		
		to choose stain.			discussion and	test.		
					dialogue	Discussing		
						quarterly		
						and annual		
10	2	Deceloification hone	Decel	aification	Theoretical lecture	research		
10	2	Decalcification, done	Decal	cification	Dreatical lecture	Daily		
		ussue.			Mathad of	Cuerterly		
					discussion and	Quarterry		
					dialogue	Discussing		
					ulalogue	quarterly		
						and annual		
						research		
12-11	2	Examination for	Exam	ination for	Theoretical lecture	Daily		
	2	second term	secon	d term	Practical lecture	testing.		
					Method of	Quarterly		
					discussion and	test.		
					dialogue	Discussing		
						quarterly		
						and annual		
						research		
14-13	2	Tissue slide, Freezing	Tissue	e slide	Theoretical lecture	Daily		
		microtome.			Practical lecture	testing.		
					Method of	Quarterly		
					discussion and	test.		
					dialogue	Discussing		
						quarterly		
						and annual		
1.5	2	Einel exemination			The erection 1 le sture	research		
15	2	Final examination			Prostical lecture	Daily		
					Mathad of	Cuerterly		
					discussion and	Quarterry		
					dialogue	Discussing		
					alalogue	quarterly		
						and annual		
						research		
103 0	Course Evalue	ation: the evaluation met	nod is a	s follows 14	5% for the practical ex	am and 25%		
for	the theoretic	al exam to extract the an	nual ef	fort from 40	%. As for the final ex	am. it is 25%		
for	the practical	exam and 35% for the th	eoretics	al exam	,	, 10 10 20 /0		
101	ne praetical	enani una 5576 foi une un						
104 I	earning an	d Teaching Resources	2					
Paguired textbooks (curricular books if any) Theory and practice of histological technique								
require	hy Report			car cominque				
Main references (sources)								
1,14111101								
			26					

Recommended books and references (scientific journals, reports)	Scientific journals and research in the field
Electronic References, Websites	Google scholar

		se manne. mistological	techniques		
106. C	Course Cod	e: HIT			
107.	Seme	ster / Year: Semester			
108.	Desci	ription Preparation Da	te:19/2/2024		
109.	Avail	able Attendance Form	ns: Lectures		
110.	Numł	per of Credit Hours (T	otal) / Number o	f Units (Total)	
9	0 hours/6 u	inits	,		
111.	Cours	se administrator's nam	e (mention all, if	more than one nam	ne)
N	lame: Duaa	a Hassan Hadi			
E	lmail: duaa	.hadi.iba13@atu.edu.i	iq		
112.	Cours	se Objectives			
Course O	bjectives		• L	earn how to prepare an	nd dye slides
			II	om different body parts.	
113.	Teach	ning and Learning Stra	ategies		
Strategy		Theoretical lease	cture method.		
		Practical lectu	re method.		
		 Method of disc 	cussion and diale	סוופ	
				540	
114.Co	urse Struct	ure			
Week	Hours	Required Learning	Unit or subject	Learning method	Evaluation
1	2	Outcomes	name	The second is all to strain	method
1	2	introduction to	Adhesives	I neoretical lecture	Daily
		molecular biology	runesives	Practical lecture	Ouarterly
				method	test.
				Method of	Discussing
				discussion and	quarterly
				dialogue	and annual
					research
2-3	2	Staining ,	Staining	Theoretical lecture	Daily
		classification of stains		method	testing.
				Practical lecture	Quarterly
				method	test.

4-5 2 Staining section Staining section Staining section Theoretical lecture of discussion and dialogue Discussing outerly and annual research 6 2 Methods of staining . Methods of staining . Theoretical lecture of discussion and dialogue Discussing outerly testing outerly testing outerly and annual research 6 2 Methods of staining . Methods of staining . Theoretical lecture method of discussion and dialogue Daily testing outerly discussion and discussion and discussion and discussion and discussion and discussion and oxidation of some stains . Types of stains . Theoretical lecture method of discussion and dialogue Daily testing outerly discussion and dialogue 9 2 Stains solvents , factors stains . Types of stains . Theoretical lecture method of discussion and dialogue Daily testing outerly discussion and dialogue 9 2 Stains solvents , factors stains . Stains solvents. Theoretical lecture method of discussion and dialogue Daily testing outerly discussion and dialogue 10 2 Decalcification , bone tissue . Decalcification Theoretical lecture Method of discussion and dialogue Daily testing outerly discussion and dialogue 12-11 2 Examination for second term Examination for second term Theoretical lecture Method of discussion and dialogue Daily testing Outerly discussion and dialogue 12-11 2	·					
4-5 2 Staining section Staining section Theoretical lecture Method of discussion and dialogue Daily testing Quarterly testing Quarterly testing Daily testing Quarterly testing Method of discussion and dialogue Daily testing Quarterly testing Quarterly testing Method of discussion and dialogue Daily testing Quarterly testing Quarterly testing Quarterly testing Method of discussion and dialogue Daily testing Quarterly testing Quarterly testing Quarterly testing Quarterly testing Quarterly testing Quarterly testing. 8-7 2 Types of stains , preparation of stain and oxidation of some stains . Types of stains . Theoretical lecture method dialogue Daily testing Quarterly testing. 9 2 Stains solvents , factors affecting staining , storage of stains , how to choose stain . Stains solvents. Theoretical lecture Practical lecture Method of discussion and dialogue Daily testing Quarterly testing. 10 2 Decalcification , bone tissue . Decalcification for second term Theoretical lecture Practical lecture Method of discussion and dialogue Daily testing Quarterly and annual research 12-11 2 Examination for second term Examination for Second term Theoretical lecture Practical lecture Practical lecture Method of discussion and dialogue Daily testing Quarterly testing. 12-11 2 Examination for second term Theoretical lecture Practical lecture Practical lecture Practical lecture P					Method of discussion and dialogue	Discussing quarterly and annual research
6 2 Methods of staining . Methods of staining . Theoretical lecture method Practical lecture method quarterly temethod method sizeussion and discussion and discus	4-5	2	Staining section	Staining section	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
8-7 2 Types of stains , preparation of stain and oxidation of some stains . Types of stains . Theoretical lecture method Practical lecture method guarterly method test. Daily testing. Quarterly testing. Quarterly and annual research 9 2 Stains solvents , factors affecting staining , storage of stains , how to choose stain . Stains solvents. Theoretical lecture Method of discussion and dialogue Daily testing. Quarterly and annual research 10 2 Decalcification , bone tissue . Decalcification for second term Theoretical lecture Method of discussion and dialogue Daily testing. Quarterly and annual research 10 2 Decalcification , bone tissue . Decalcification for second term Theoretical lecture Method of discussion and dialogue Daily test. Discussing quarterly and annual research 12-11 2 Examination for second term Examination for second term Theoretical lecture Method of discussion and dialogue Daily test. Discussing quarterly and annual research 12-11 2 Examination for second term Examination for second term Theoretical lecture Method of discussion and dialogue Daily test. Discussing quarterly and annual research 12-11 2 Examination for second term Examination for second term Examination of discussion and dialogue Daily test. Discussing quarterly and annual research <td>6</td> <td>2</td> <td>Methods of staining .</td> <td>Methods of staining .</td> <td>Theoretical lecture method Practical lecture method Method of discussion and dialogue</td> <td>Daily testing Quarterly tes Discussing quarterly and annual research</td>	6	2	Methods of staining .	Methods of staining .	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
9 2 Stains solvents, factors affecting staining , storage of stains , how to choose stain . Stains solvents. Theoretical lecture Practical lecture Method of discussion and dialogue Daily testing. Quarterly testing. Discussing quarterly and annual research 10 2 Decalcification , bone tissue . Decalcification for second term Decalcification for second term Theoretical lecture Practical lecture Method of discussion and dialogue Daily test. Discussing quarterly and annual research 12-11 2 Examination for second term Examination for second term Examination for discussion and dialogue Daily test. Discussing quarterly and annual research 14.12 2 Times dide. Encode Theoretical lecture Practical lecture Practi	8-7	2	Types of stains , preparation of stain and oxidation of some stains .	Types of stains .	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
102Decalcification , bone tissue .DecalcificationTheoretical lecture Practical lecture Method of discussion and dialogueDaily testing. Quarterly test.12-112Examination second termfor second termExamination for second termTheoretical lecture Practical lecture Pract	9	2	Stains solvents ,factors affecting staining , storage of stains , how to choose stain .	Stains solvents.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12-11 2 Examination for second term Examination for second term Theoretical lecture Daily testing. 12-11 2 Examination for second term Examination for second term Theoretical lecture Daily testing. 14-12 2 Tierre elich Tierre elich Tierre elich Tierre elich Daily testing.	10	2	Decalcification , bone tissue .	Decalcification	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
14.12 2 Time did. Encoder Time did. The estimation being	12-11	2	Examination for second term	Examination for second term	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
14-13 2 Itssue side, Freezing Itssue side Incoretical lecture Daily microtome. Preezing Itssue side Practical lecture testing	14-13	2	Tissue slide, Freezing	Tissue slide	Theoretical lecture Practical lecture	Daily testing.

			3.6.1.1	6	
			Method	of	Quarterly
			discussion	and	test.
			dialogue		Discussing
					quarterly
					and annual
					research
15	2	Final examination	Theoretical lect	ure	Daily
			Practical lecture	e	testing.
			Method	of	Quarterly
			discussion	and	test.
			dialogue		Discussing
					quarterly
					and annual
					research

115. Course Evaluation: the evaluation method is as follows: 15% for the practical exam and 25% for the theoretical exam to extract the annual effort from 40%. As for the final exam, it is 25% for the practical exam and 35% for the theoretical exam.

Theory and practice of histological technique
by Bancroft
Scientific journals and research in the
field
Google scholar

117.	Course Name: Molecular biology
118. Cou	rse Code: M.B
119.	Semester / Year: Semester
120.	Description Preparation Date: 19/2/2024
121.	Available Attendance Forms: Lectures
122.	Number of Credit Hours (Total) / Number of Units (Total)
60 h	ours/4 units
123.	Course administrator's name (mention all, if more than one name)
Nan	ne: wurood Ali Hathal
Ema	ail: wurhathal@atu.edu.iq
124.	Course Objectives

Course	Objectives		• T m or • 2·	he student's knowledge aterial found in the cor rganisms. -Structure of DNA and R	of the genetic ells of living NA.
125	. Teac	ching and Learning Stra	ategies		
Strategy	7	Theoretical lease	cture method.		
		Practical lectur	re method		
		Method of dise	cussion and dialo	gue	
126.Co	ourse Struc	ture			
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Introduction to molecular biology	Introduction	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
2	2	Cell cycle	Cell cycle	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
3	2	DNA and RNA structure	DNA and RNA structure	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly te Discussing quarterly and annual research
4	2	DNA replication	DNA replication	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly test Discussing quarterly and annual research
5	2	DNA transcription	DNA transcription	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research

6-7 2 Translation and protein synthesis Translation and protein synthesis Theoretical lecture Method of discussion and dialogue 8 2 Gene expression and regulation Gene expression and regulation Theoretical lecture Method of discussion and dialogue 10-9 2 Inhibitors of translation and transcription Inhibitors of translation and transcription Theoretical lecture Method discussion and dialogue 11 2 DNA repair system. DNA repair system DNA repair dialogue 12 2 Mutation and chromosomal aberrations Mutation and chromosomal aberrations Theoretical lecture Method discussion and dialogue				7		
8 2 Gene expression and regulation Gene expression and regulation Theoretical lecture Method discussion and dialogue 10-9 2 Inhibitors of translation and transcription Inhibitors of translation and transcription Theoretical lecture Method discussion and dialogue 11 2 DNA repair system. DNA repair system Theoretical lecture Method discussion and transcription 12 2 Mutation and chromosomal aberrations Mutation and chromosomal aberrations Theoretical lecture Method discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research	Theoretical lecture Practical lecture Method of discussion and dialogue	Translation and protein synthesis	Translation and protein synthesis	2	6-7
10-92Inhibitors translation transcriptionInhibitors and transcriptionInhibitors translation and transcriptionTheoretical lecture Method discussion and transcription112DNA repair system.DNA systemTheoretical lecture Method discussion and transcription112DNA repair system.DNA systemTheoretical lecture Method discussion and discussion and discussion122Mutation aberrationsand aberrationsMutation and aberrationsTheoretical lecture Method discussion and discussion and dialogue	Daily testing. of Quarterly d test. Discussing quarterly and annual research	Theoretical lecture Practical lecture Method of discussion and dialogue	Gene expression and regulation	Gene expression and regulation	2	8
112DNA repair system.DNA repair systemTheoretical lecture Practical lecture Method discussion and dialogue122Mutation chromosomal aberrationsMutation chromosomal aberrationsTheoretical lecture Method discussion and chromosomal aberrations	Daily testing. of Quarterly d test. Discussing quarterly and annual research	Theoretical lecture Practical lecture Method of discussion and dialogue	Inhibitors of translation and transcription	Inhibitors of translation and transcription	2	10-9
12 2 Mutation and chromosomal aberrations	Daily testing. of Quarterly d test. Discussing quarterly and annual research	Theoretical lecture Practical lecture Method of discussion and dialogue	DNA repair system	DNA repair system.	2	11
	Daily testing. of Quarterly d test. Discussing quarterly and annual research	Theoretical lecture Practical lecture Method of discussion and dialogue	Mutation and chromosomal aberrations	Mutation and chromosomal aberrations	2	12
13 2 Chemical and physical agents that cause mutation Chemical and physical agents Theoretical lecture Practical lecture Method discussion and dialogue	Daily testing. of Quarterly d test. Discussing quarterly and annual research	Theoretical lecture Practical lecture Method of discussion and dialogue	Chemical and physical agents	Chemical and physical agents that cause mutation	2	13
142Recombinant technology technique)DNA (cDNARecombinant DNA technology PNA technologyTheoretical lecture Practical lecture	Daily testing.	Theoretical lecture Practical lecture	Recombinant DNA technology	RecombinantDNAtechnology(cDNAtechnique)	2	14

			(cDNA	Method of	Quarterly
			technique)	discussion and	test.
				dialogue	Discussing
				_	quarterly
					and annual
					research
15	2	Cloning and	Cloning	Theoretical lecture	Daily
		application (briefly)		Practical lecture	testing.
				Method of	Quarterly
				discussion and	test.
				dialogue	Discussing
					quarterly
					and annual
					research

127. Course Evaluation: the evaluation method is as follows: 15% for the practical exam and 25% for the theoretical exam to extract the annual effort from 40%. As for the final exam, it is 25% for the practical exam and 35% for the theoretical exam.

128. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Genetic and molecular biology book
Main references (sources)	
Recommended books and references (scientific	Scientific journals and research in the
journals, reports)	field
Electronic References, Websites	Google scholar

129.	Course Name: Lab. Safety		
130. Cou	Irse Code: Lab. S		
131.	Semester / Year: Semester		
132.	Description Preparation Date: 19/2/2024		
133.	Available Attendance Forms: Lectures		
134.	Number of Credit Hours (Total) / Number of Units (Total)		
45 ł	nours/3 units		
135.	Course administrator's name (mention all, if more than one name)		
Nar	ne: Entesar marzook hussain		
Email: entesar.hussain@atu.edu.iq			
136.	Course Objectives		

Course	Objectives		• U ri • • ir	Inderstanding biological sks. How to deal with safe njury in the laboratory.	and chemical ety and avoid
137	. Teac	hing and Learning Stra	ategies		
Strategy	7	Theoretical lease	cture method.		
		Dractical lastu	ra mathad		
		• Flactical lectu	ie meulou.		
		Method of dise	cussion and dialo	ogue	
138.Co	ourse Struc	ture			
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
2-1	1	Introduction to laboratory safety.	Introduction.	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
3	1	General lab. Safety roles	General lab.	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
5-4	1	Personal protective equipments	Personal protective equipments	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly test Discussing quarterly and annual research
8-6-7	1	Biological hazards	Biological hazards	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
10-9	1	Types of biological hazards	Types of biological hazards	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research

			0			1
11	1	Chemical hazards	Chem	ical	Theoretical lecture	Daily
			hazaro	ds	Practical lecture	testing.
					Method of	Quarterly
					discussion and	test.
					dialogue	Discussing
						quarterly
						and annual
						research
12	1	Types of chemical	Types	of	Theoretical lecture	Daily
		hazards	chemi	cal hazards	Practical lecture	testing.
					Method of	Quarterly
					discussion and	test.
					dialogue	Discussing
						quarterly
						and annual
12	1	Doviou	Davia	** /	Theoretical lecture	research
13	1	NEVIEW	Revie	w	Practical lecture	Dally
					Method of	Ouarterly
					discussion and	Quarterry
					dialogue	Discussing
					ulalogue	quarterly
						and annual
						research
15-14	1	Final exam			Theoretical lecture	Daily
	-				Practical lecture	testing.
					Method of	Quarterly
					discussion and	test.
					dialogue	Discussing
						quarterly
						and annual
						research
139. C	Course Evalua	ation: the evaluation meth	nod is a	s follows: 15	5% for the practical ex	am and 25%
for	the theoretic	al exam to extract the an	nual ef	fort from 409	%. As for the final exa	um, it is 25%
for	the practical	exam and 35% for the the	eoretica	al exam.		
140. L	earning an	d Teaching Resources	5			
Required	l textbooks (a	curricular books, if any)				
Main ref	Main references (sources)				safety handbook	
Recomm	Recommended books and references (scientific				journals and resea	arch in the
journals,	journals, reports)				~	
Electroni	ic References	s, Websites		Google scholar		

141.	. Cours	Course Name: Blood transfusion					
142. 0	142. Course Code: B.T						
143	. Seme	ster / Year: Semester					
144	. Desci	ription Preparation Da	te:19/2/2024				
145	. Avail	able Attendance Form	ns: Lectures				
146	Numł	per of Credit Hours (T	otal) / Number o	f Units (Total)			
140	$\frac{1}{15} \text{ hours/3 }$	inits					
147.	. Cours	se administrator's nam	e (mention all, if	more than one nam	ne)		
1	Name: Saif	Anwar Jaafar					
E	Email: saif.	nori@atu.edu.iq					
148	<u>Cours</u>	se Objectives					
Course (Objectives		• C	onduct all blood tests.	d norforming		
			al	l tests	u performing		
149	. Teach	ning and Learning Stra	ategies				
Strategy		Theoretical lease	cture method.				
		Practical lectu	re method.				
		• Method of dise	cussion and dialo	gue			
150.Co	ourse Struct	ure					
Week	Hours	Required Learning	Unit or subject	Learning method	Evaluation		
1	1	Outcomes	name		method		
1	1	transfusion of blood	blood transfusion	method	Daily testing.		
				Practical lecture	Quarterly		
				method	test.		
				Method of	Discussing		
				discussion and	quarterly		
				unulogue	research		
2	1	Blood components,	Blood	Theoretical lecture	Daily		
		blood collection,	components.	method	testing.		
		choosing the donor,		Practical lecture	Quarterly		
				methou	1051.		

		physiological examination, time of		Method of discussion and dislogue	Discussing quarterly
		conection		ulalogue	research
3	1	Complete the second week principles	Complete the second week principles	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual
4	1	Blood group: ABO system, Rh factor, Lewis system.	Blood group	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
5	1	Classification of blood typing (long & short)	Classification of blood typing	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
6	1	Direct and indirect coomb's test of blood	Direct and indirect coomb's test	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
7	1	Process of cross matching test, reporting and record the results.	Process of cross matching test,	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8	1	Roles of blood transfusion , blood disease	Roles of blood transfusion	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	1	Pregnant care , leukemia of infants	Pregnant care	Theoretical lecture Practical lecture	Daily testing.

				Method of discussion and	Quarterly test.
				dialogue	quarterly and annual research
10	1	Complete the principles above	Complete the principles above	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
	1	Separation of blood contents, methods of separation.	Separation of blood contents	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12	1	Complete the principle above	Complete the principle above	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
13	1	Component of blood after storage, anticoagulants.	Component of blood after storage,	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
14	1	Blood transfusion disadvantage.	Blood transfusion disadvantage.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
15	1	Quality control , Tools ,Persons , Method	Quality control	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test.

151. Course Evaluation: the evaluation method is for the theoretical exam to extract the annual e for the practical exam and 35% for the theoretic	Discussing quarterly and annual research as follows: 15% for the practical exam and 25% ffort from 40%. As for the final exam, it is 25% al exam.		
152. Learning and Teaching Resources			
Required textbooks (curricular books, if any)			
Main references (sources)	Blood Transfusion		
Recommended books and references (scientific	Scientific journals and research in the field		
journals, reports)			
Electronic References, Websites	Google scholar		

153.	Course Name: Biochemistry	
154. Cou	rse Code: Bioche	
155.	Semester / Year: Semester	
156.	Description Preparation Date: 19/2/202	24
157.	Available Attendance Forms: Lecture	8
158.	Number of Credit Hours (Total) / Nur	nber of Units (Total)
90 h	ours/6 units	
159.	Course administrator's name (mention	all, if more than one name)
Nam	e: Rawaa raheem	
Ema	il: rawaaraheem94@gamil.com	
160.	Course Objectives	
Course Obje	ctives	• It gives a general idea of biochemistry and enables one to identify the
		biochemical reactions that occur in
		human tissues.
		• It is possible to make and prepare
		 Diagnosing the body's life compounds
		using tools and chemicals
		 Laboratory equipment can be used.
161.	Teaching and Learning Strategies	
	48	

Strategy		 Theoretical lecture method. Practical lecture method 						
Practical lecture method.Method of discussion and dialogue				gue				
162.Co Week	ourse Struc	ture Required Learning	Unit or subject	Learning method	Evaluation			
		Outcomes	name		method			
1	2	Biochemistry Biochemistry compounds, cell	Biochemistry	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research			
2	2	Carbohydrates, classification, its presence, its importance, General properties of monosaccharide's.	Carbohydrates,	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research			
3	2	Important monosaccharide's. Derivatives of monosaccharide's, reducing sugars. Its presence in human body, its reactions Disaccharides and polysaccharides properties, reactions occurrence.	Important monosaccharide's.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research			
4	2	Lipids ,classification ,properties. Fatty acids ,properties , reactions .	Lipids ,classification ,properties.	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research			
5	2	Essential fatty acids and unessential fatty acids. properties, reactions. Unsaturated fatty acids , properties its importance,	Essential fatty acids and unessential fatty acids.	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research			

_		- · · ·	- · · ·	· · · ·	
6	2	Compound lipids ,derived lipids cholesterol, its existence.	Compound lipids	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
7	2	Proteins, general properties, peptide bond. Amino acids , properties , occurrence.	Proteins	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8	2	Aminoacid,classification,,reactions.ClassificationClassificationofproteins,,chemicalproperties of proteins.	Amino acid	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	2	Separation of organic compounds by chromatography.	Separation of organic compounds by chromatography.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10	2	Separation of amino acids. Examination	Separation of amino acids.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
11	2	Nucleic acids, nucleoprotein, analysis of nucleoprotein.	Nucleic acids.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12	2	Enzymes ,nomenclature, classification.	Enzymes	Theoretical lecture Practical lecture	Daily testing.

		Enzymes, properties,			Method	of	Quarterly
		factors in fleecing the			discussion	and	test.
		rate of enzymatic			dialogue		Discussing
		reactions. Enzyme					quarterly
		,1nh1bitions.					and annual
12		**			TT1 (* 11		research
13	2	Hormones ,	Horm	ones	Theoretical lec	ture	Daily
		properties. ,			Practical lectur	e	lesting.
		Classification of			discussion	10 b m d	Quarterry
		hormones. Protein			dialogue	and	Discussing
		hormones, non protein			ulalogue		Discussing
		hormones					quarterry
							research
14	2	Vitamine water	Vitar	nins	Theoretical lec	ture	Daily
11	2	soluble vitaming	v Itali	1115	Practical lectur	e	testing
		classification			Method	of	Ouarterly
					discussion	and	test.
		deficiency			dialogue		Discussing
		Eat soluble vitemine			C C		quarterly
		classification					and annual
		occurrence deficiency					research
		Complete of vitamins					
15	2	Creatine and	Creatin	ne	Theoretical lec	ture	Daily
	-	creatinine			Practical lectur	e	testing.
					Method	of	Quarterly
					discussion	and	test.
					dialogue		Discussing
							quarterly
							and annual
							research
163. Co	ourse Evalu	ation: the evaluation met	hod is a	s follows: 15	% for the practi	cal ex	am and 25%
for the	he theoretic	cal exam to extract the ar	nnual ef	fort from 40%	6. As for the fin	al exa	um, it is 25%
for th	he practical	exam and 35% for the th	neoretica	al exam.			
1 <i>C 4</i> T	•	1					
164. Le	taxtbooks (d Teaching Resource	Ś				
Main refe	rences (sou	rces)		Fundamen	tals of Bioche	mistr	• 17
Pasammandad backs and references (scientific			entific	Scientific	iournals and	reco	y arch in the
Recomme	journals, reports)			Scientific journals and research in the field			
Recomme journals, r	eports)			field			
Recomme journals, r Electronic	reports) Reference	s, Websites		field Google sch	nolar		

Course Description Form Course Name: Human right and Democratic 165.

166. Course Code: HRD

167	. Sem	Semester / Year:Semester						
1.60								
168	. Desc	cription Preparation Da	ate:19/2/2024					
160	A	lable Attendence For						
109	. Aval	hable Attendance For	ns: Lectures					
170	Num	ber of Credit Hours (Total) / Numb	per of Units (Total)				
170	$\frac{1000}{30 \text{ hours}/2}$	units						
171	. Cour	rse administrator's nan	ne (mention a	III, if more than one nam	ne)			
]	Name: Zaio	d khudhur	X	,	,			
]	Email: zaic	l.bermany@atu.edu.iq						
172	. Cour	rse Objectives						
Course	Objectives		A	At the end of the course the	e student will			
			C	• Know about human rig	hts			
				• In addition, the student	t will be able			
				to deal with different	Theories of			
				human right				
173	. Teac	hing and Learning Str	ategies					
Strategy		• Theoretical le	cture method					
		Practical lecture	re method.					
		Method of dis	cussion and c	lialogue				
174 C								
1/4.CC Week	Hours	Required Learning	Unit or subie	ct Learning method	Evaluation			
,, cell	110415	Outcomes	name		method			
	2	Understanding the	Introduction	Theoretical lecture	Daily			
		rights and duties and know how to deal well		Practical lecture	testing. Quarterly			
1 st		with people in society		discussion and	test.			
week				dialogue	Discussing			
					quarterly			
					and annual research			
	2	Understanding the	Explain the ter	rm of Theoretical lecture	Daily			
		rights and duties and	human rights	Practical lecture	testing.			
$\boldsymbol{\gamma}^{\mathrm{nd}}$		know how to deal well		Method of discussion and	Quarterly			
week		with people in society		dialogue	Discussing			
					quarterly			
					and annual			
	2	Understanding the	The historica	l of Theoretical lecture	research			
3 rd	2	rights and duties and	human rights	Practical lecture	Quarterly tes			
week		know how to deal well			Discussing			
		with people in society			quarterly			

		1		1	
				Method of discussion and dialogue	and annual research
4 th week	2	Understanding the rights and duties and know how to deal well with people in society	Development of human rights	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
5 th week	2	Understanding the rights and duties and know how to deal well with people in society	Development of human rights	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
6 th week	2	Understanding the rights and duties and know how to deal well with people in society	Development of human rights	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
7 th week	2	Understanding the rights and duties and know how to deal well with people in society	Human rights and Sumerian civilization	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8 th week	2	Understanding the rights and duties and know how to deal well with people in society	Human rights in Roman civilization	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9 th week	2	Understanding the rights and duties and know how to deal well with people in society	Human rights in the Nile Valley civilization	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research

10 th week		with people in society		discussion and dialogue	test. Discussing
week				uluiogue	quarterly and annual research
11 th week	2	Understanding the rights and duties and know how to deal well with people in society	Human rights in Judaism	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12 th week	2	Understanding the rights and duties and know how to deal well with people in society	Human rights in the Christian religion	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
13 th week	2	Understanding the rights and duties and know how to deal well with people in society	Human rights in the Islamic religion	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
14 th week	2	Understanding the rights and duties and know how to deal well with people in society	Human rights in the Islamic religion	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
15 th week	2	Understanding the rights and duties and know how to deal well with people in society	Final Exam	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
175. 3	30% for the	e annual endeavor and	70% for the final	exam	·
176. I	Learning a	nd Teaching Resource	s		

Required textbooks (curricular books, if any)	Human Rights book	
Main references (sources)	The organization of human rights magazine	
Recommended books and references (scientific	Scientific journals and research in the field	
journals, reports)		
Electronic References, Websites	Google scholar	

Second year/first semester Number of units for the second semester = 35

177.	Course Name: Microbiology	
178. Cou	rse Code: MB	
179.	Semester / Year: Semester	
180.	Description Preparation Date: 19/2/20	24
101		
181.	Available Attendance Forms: Lecture	S
182.	Number of Credit Hours (Total) / Nur	mber of Units (Total)
90 h	ours/6 units	
183.	Course administrator's name (mention	all, if more than one name)
Nam	e: Dr. bareq A. ALlateef	
Ema	il: <u>bareq.as86@gmail.com</u> " <u>barq10@</u>	atu.edu.iq
184.	Course Objectives	
Course Object	ctives	Assistance in laboratory investigation of
		the examined samples by implantation.
		• Assistance in how to isolate and
		diagnose ailments.
		• Assisting the doctor in diagnostic and
		therapeutic procedures during the
		isolation procedure.
185.	Teaching and Learning Strategies	·
Strategy	Theoretical lecture metho	od.
	• Practical lecture method.	
	Method of discussion and	d dialogue
	55	

186.Course Structure							
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method		
1	2	Introduction to medical microbiology, Microorganism, instruction with the host, microbial virulence, historical significance	Introduction to medical microbiology,	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research		
2	2	classes of pathogenic microorganisms Viruses, bacteria, fungi, parasites	classes of pathogenic microorganisms	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research		
3	2	Classification and Scientific nomenclature of the bacteria. Normal Flora	Classification and Scientific	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research		
4	2	Bacterial Structure	Bacterial Structure	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research		
5	2	Bacterial division and growth	Bacterial division and growth	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research		
6	2	Bacterial Genetics, DNA transfer between bacteria	Bacterial Genetics	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research		
7	2	Pathogenicity of bacteria	Pathogenicity of bacteria	Theoretical lecture Practical lecture	Daily testing.		

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	2	TONICENESIS	TOMOTNEOIO	Method of discussion and dialogue	Quarterly test. Discussing quarterly and annual research
8	2	(bacterial toxin).	IOXIGENESIS	Theoretical lecturePractical lectureMethodofdiscussionanddialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	2	Classes of antibacterial agents	Classes of antibacterial agents	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10	2	General characteristic and classification of virus	General characteristic and classification of virus	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
11	2	Viral genetics, a mutation, instruction between viruses, the role of genetic variation in evolution of viruses.	Viral genetics	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12	2	Pathogenicity of viruses	Pathogenicity of viruses	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
13	2	Classes of antiviral agents	Classes of antiviral agents	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test.

									Discussing
									quarterly
									and annual
									research
	2	Characteristic	and	Charac	eteristic a	and	Theoretical lect	ure	Daily
		classification	of	classif	ication	of	Practical lectur	e	testing.
		medical fungi.		medica	al fungi.		Method	of	Quarterly
14							discussion	and	test.
14							dialogue		Discussing
									quarterly
									and annual
									research
	2	Morphology	and	Morp	hology an	nd	Theoretical lect	ure	Daily
		structure	of	struct	ure of fun	ngi	Practical lectur	e	testing.
		fungi,Classes of					Method	of	Quarterly
15		antifungal agents					discussion	and	test.
15							dialogue		Discussing
									quarterly
									and annual
									research
187. 0	Course Evalu	ation: the evaluatio	n met	thod is a	s follows	s: 159	% for the practic	cal ex	am and 25%
for	the theoretic	al exam to extract the	he anr	nual effo	ort from 40	0%.	As for the final e	exam,	it is 25% for
the	practical exa	am and 35% for the	theor	etical ex	kam.				
188. I	_earning ar	nd Teaching Reso	ource	s					
Required	d textbooks (curricular books, if	any)		Medical	l micı	robiology		
Main ref	ferences (sou	rces)			BASIC	BAC	TERIOLOGY		
Recomm	nended bool	ks and references	s (sci	entific	Warren		Levinson,	MI	D, PhD
journals,	, reports)				San		Francisco,		California
				January	2014	ł			
Electron	ic Reference	s, Websites			https://w	vww.	amazon.com/M	edica	l-
					Microbi	ology	y-Immunology-	Eleve	nth-
							Science/dp/0071700285		

189.	Course Name: Haematology\1					
190. Cou	190. Course Code: Hem					
191.	Semester / Year: Semester					
192.	Description Preparation Date: 19/2/2024					
193.	Available Attendance Forms: Lectures					
	58					

104								
194	Num	194 Number of Credit Hours (Total) / Number of Units (Total)						
($\frac{1}{20}$ hours/6	units						
195	. Cour	se administrator's nan	ne (mention all, if	more than one nam	ne)			
1	Name: Ali N	Mouged fadell						
I	Email: aldhmoshyali @gmail.com							
196	. Cour	se Objectives						
Course	Jojectives		 K la K K al 	nowledge of the met boratory tests, and isease. nowing blood types ar l laboratory tests. Knowledge of blood typ nemia.	dical system, diagnosis of nd performing es, RBCs, Hb,			
197	. Teac	hing and Learning Str	ategies					
Strategy		• Theoretical le	cture method.					
		Practical lecture	re method.					
		• Method of dis	cussion and dialog	gue				
198.Cc	ourse Struct	ture						
Week	Hours	Required Learning	Unit or subject	Learning method	Evaluation			
1	2	Introduction importance of hematology. Study the blood contains	Introduction importance of hematology.	Theoretical lecture method Practical lecture method Method of discussion and	Daily testing. Quarterly test. Discussing quarterly			
				dialogue	and annual research			
2	2	The haemoto poiesis in fetus, children and adult.	The haemoto poiesis.	dialogue Theoretical lecture method Practical lecture method Method of discussion and dialogue	and annual research Daily testing. Quarterly test. Discussing quarterly and annual research			
2	2	The haemoto poiesis in fetus, children and adult. The normal red blood cells, importance, Structure, erythropoiesis and Function	The haemoto poiesis.	dialogue Theoretical lecture method Practical lecture method Method of discussion and dialogue Theoretical lecture Practical lecture Method of discussion and dialogue	and annual research Daily testing. Quarterly test. Discussing quarterly and annual research Daily testing Quarterly tes Discussing quarterly and annual research			
2 3 4	2 2 2 2 2	The haemoto poiesis in fetus, children and adult. The normal red blood cells, importance, Structure, erythropoiesis and Function Polycythemia, causes, Clinical Signs and Laboratory diagnosis	The haemoto poiesis. The normal red blood cells. Polycythemia,	dialogue Theoretical lecture method Practical lecture method of discussion and dialogue Theoretical lecture Practical lecture Method of discussion and dialogue Theoretical lecture method	and annual research Daily testing. Quarterly test. Discussing quarterly and annual research Daily testing Quarterly tes Discussing quarterly and annual research Daily testing Quarterly and annual research			

				Ι	
				Practical lecture	Discussing
				Method of	quarterly
				discussion and	and annual
				dialogue	research
5	2	Study the red cell	rad call	Theoretical lecture	Daily
5	Z	morphology in health	neu cen	method	Daily
		and disease	morphology	Dractical lecture	Ouarterly
		Abnormality of R B C	•	method	test
		in size		Method of	Discussing
		111 5120.		discussion and	quarterly
				dialogue	and annual
					research
6	2	Abnormality of R.B.C	Abnormality of	Theoretical lecture	Daily
_	-	in in shape	R.B.C.	Practical lecture	testing.
		1		Method of	Quarterly
				discussion and	test.
				dialogue	Discussing
					quarterly
					and annual
					research
7	2	Abnormality of R.B.C	Abnormality of	Theoretical lecture	Daily
		in colour.	R.B.C.	Practical lecture	testing.
				Method of	Quarterly
				discussion and	test.
				dialogue	Discussing
					quarterly
					and annual
0	2			T 1	research
8	2	hlood contain and	the blood contain	Proctical locture	Daily
		importance	and importance	Method of	Quarterly
		importance.	and importance.	discussion and	test
				dialogue	Discussing
				ulalogue	quarterly
					and annual
					research
9	2	Study the types of	types of normal	Theoretical lecture	Daily
		normal Hb. Types	Hb.	Practical lecture	testing.
				Method of	Quarterly
				discussion and	test.
				dialogue	Discussing
					quarterly
					and annual
					research
10	2	Common Hb. Variant	Common Hb.	Theoretical lecture	Daily
				Practical lecture	testing.
				Method of	Quarterly
				discussion and	test.
				dialogue	Discussing
					quarterly

				<u> </u>		
						and annual
	-					research
11	2	Anemia. Definition,	Anemia.		Theoretical lecture	Daily
		classification and			Practical lecture	testing.
		types			Method of	Quarterly
					discussion and	test.
					dialogue	Discussing
						quarterly
						research
12	2	Anemia Causes	Anemia		Theoretical lecture	Daily
12	Δ	clinical signs and	Anenna.		Practical lecture	testing
		laboratory Finding			Method of	Ouarterly
		hubblutory i manig.			discussion and	test
					dialogue	Discussing
					8	quarterly
						and annual
						research
13	2	Megaloblastic anemia	Megaloblas	stic	Theoretical lecture	Daily
		and Pernicious	anemia		Practical lecture	testing.
		anemia.			Method of	Quarterly
					discussion and	test.
					dialogue	Discussing
						quarterly
						and annual
1.4	2		A 1 (*		TT1 (* 11 (research
14	2	Aplastic anemia and	Aplastic	anemia	Theoretical lecture	Daily
		nemorytic anemia	and ne	emorytic	Mathod of	lesting.
			anenna		discussion and	Quarterry
					dialogue	Discussing
					alalogue	quarterly
						and annual
						research
15	2	Sickle Cell an. And	Sickle Cel	ll an.	Theoretical lecture	Daily
	_	acquired and			Practical lecture	testing.
		autoimmune			Method of	Quarterly
		hemolytic anemia			discussion and	test.
					dialogue	Discussing
						quarterly
						and annual
4.0.0						research
199.0	Course Evalu	ation: the evaluation met	thod is as fol	llows: 159	% for the practical e	xam and 25%
for	the theoretic	cal exam to extract the ar	nnual effort f	trom 40%	As for the final ex	am, it is 25%
for	the practical	exam and 35% for the th	neoretical exa	am.		
		1				
200. I	Learning ar	nd Teaching Resource	S			
Require	d textbooks (curricular books, if any)	Cli	inical he	matology in medi	cal practice
Main ref	ferences (sou	rces)				
			61 —			

Recommended books and references (scientific journals, reports)	Scientific journals and research in the field
Electronic References, Websites	Google scholar

201	201. Course Name: Clinical chemistry\1							
202. 0	Course Coc	le: Cl.Ch						
203	. Seme	ester / Year: Semester						
204								
204	204. Description Preparation Date:19/2/2024							
205	. Avai	lable Attendance Form	ns: Lectures					
206 Number of Credit Hours (Total) / Number of Units (Total)								
200	$\frac{1}{20}$ hours/6	units						
207	. Cour	se administrator's nan	ne (mention all, i	f more than one nan	ne)			
	Name: Thil	kra Jawad	,					
]]	Email: thik	ra.jawad@atu.edu.iq	l					
208	. Cour	se Objectives						
 of clinical chemistry and were able t develop their skills in clinical chemistry analyses Knowing how to conduct laborator tests, identifying diseases, an comparing them to nature. 					uct laboratory seases, and			
209	. Teac	hing and Learning Str	ategies					
Strategy	,	Theoretical lease	cture method.					
		Practical lectu	re method.					
		• Method of dis	cussion and dialo	ogue				
210.Co	ourse Struct	ture						
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method			
1	2	Introduction to clinical chemistry Disciplinary of clinical chemistry Introduction of metabolism, types of metabolism	Introduction to clinical chemistry	 Theoretical lecture method Practical lecture method Method of discussion and dialogue 	Daily testing. Quarterly test. Discussing quarterly			
			62					

·			ſ	T	
		(anabolism and catabolism) collection and handing of blood samples , anticoagulant , urine compassion ,urine collection methods urine preservative			and annual research
2	2	Acid-base balance	Acid-base balance	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
3-4	2	Electrolytes (Na+, K+, Cl-, Ca2+, Mg, ect) Diseases related to increase and decrease of electrolytes	Electrolytes	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
4	2	Trace element [Cu+2, Ceruloplasmin, Zn, Mn], disease appeared in abnormal metabolism of these metals.	Trace element	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
5	2	Trace element [Cu+2, Ceruloplasmin, Zn, Mn], disease appeared in abnormal metabolism of these metals	Trace element	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
6-7	2	Glucose digestion and absorption (glucose metabolism) Glucose uptake by cells Glycolysis and hormones that regulate glycolysis	Glucose digestion and absorption	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8	2	Exam	Exam	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly

					and annual research					
9	2	Tricyclic acid (TCA, Krebs' cycle) 1- Reactions of TCA 2- Energy production of TCA 3- Function and regulationof TCA 4- dysfunction of TCA	Tricyclic acid	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research					
10	2	Glycogen metabolism -Regulation of synthesis -disorders of glycogen metabolism	Glycogen metabolism	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research					
11	2	Gluconeogenesis Precursors (such as Pyruvate, lactate, alanine, ect)	Gluconeogenesis	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research					
12-14	2	Diabetes Mellitus 1- blood glucose and regulation of blood glucose (role of insulin and glucagon hormones in glucose regulation) 2- Hyperglycemi a (types of DM) 3- Hypoglycemia	Diabetes Mellitus	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research					
15	2		Review for final exam	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research					
211. C	211. Course Evaluation: the evaluation method is as follows: 15% for the practical exam and 25% for the theoretical exam to extract the annual effort from 40%. As for the final exam, it is 25%									
101	the practical									
212. I	Learning an	d Teaching Resource	S							
			64							

Required textbooks (curricular books, if any)	Biochemistry
Main references (sources)	cholesterol clinical practice guidelines
Recommended books and references (scientific journals, reports)	Scientific journals and research in the field
Electronic References, Websites	Google scholar

213	. Cour	rse Name: Immunolog	gy			
214	Course Co	le: IM				
217.						
215	. Sem	ester / Year: Semeste	r			
216	. Desc	cription Preparation D	Date:19/2/2024			
217	'. Avai	lable Attendance For	ms: Lectures			
210	Num	han of Credit Hours	Total) / Numb	on of Units	(Total)	
210	$\frac{1100}{200 \text{ hours}/6}$	upite	(10tal) / Inullio	er or Units	(10tal)	
219		units se administrator's na	me (mention a	ll if more t	han one nan	ne)
	Name: mu	na Sabbar jebar	ine (mention a			
	Email: mu	najebar@gmail.co	m			
220). Cou	rse Objectives				
 Course Objectives Identify the most importation of the immune system readisease resistance. Preparing some antibodition antigens. Learn how to detect fever and some bacterial disease 					tibodies and fever, AIDS, seases.	
221	. Teac	hing and Learning St	rategies			
Strategy	1	Theoretical le	ecture method.			
		Practical lecture	are method.			
		• Method of dis	scussion and d	alogue		
222.Co	ourse Struc	ture				
Week	Hours	Required Learning Outcomes	Unit or subjec name	t Lean met	rning hod	Evaluation method
1	2	Knowledge of	Immunology	Theo	oretical	Daily
		immunology:		lectu	ire method	testing.
			65			

					
		definition and classification of the sections of immunity, natural and acquired immunity, factors and defenses Natural immunity		Practical lecture method Method of discussion and dialogue	Quarterly test. Discussing quarterly and annual research
2	2	Knowledge of the immune system, lymphoid tissues and cells, their origin, recipients and stages of maturation, primary and secondary lymphoid organs.	immune system	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
3	2	Phagocytosis: macrophages, mononuclear cells, inflammation, and phagocytosis Antigen presenting cells: origin, maturity, receptors, types	Phagocytosis	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
4	2	Antigen and antigenic determination Its definition, characteristics, types of antigens (exogenous and endogenous antigens)	Antigen and antigenic	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
5	2	Definition of antibodies, composition, types, properties, manufacturing and editing	antibodies	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
			66		

6	2	Immune response: primary and secondary, their characteristics and differences, regulation of the immune response	Immune response	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
7	2	Major histocompatibility complex (MHC) Its definition, types, role in antigen presentation	Major histocompatibility	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8	2	Complements Definition of complement, its activation, methods of activation, inhibitors, diseases associated with complement deficienc	Complements	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	2	Cytokines	Cytokines	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10	2	Immunity against germs and toxins How the immune system works in defense against germs	Immunity against germs and toxins	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
11	2	Immunity against viruses, immunity against parasites, immunity against fungi	Immunity against viruses	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly

						and annual
12	2	Anti-tumor immunity Definition of tumor, antigens related to the tumor, their types, their relationship to different tumors, methods Escaping the body's immunity	Anti-tun immunit	nor y	Theoretical lecture Practical lecture Method of discussion and dialogue	research Daily testing. Quarterly test. Discussing quarterly and annual research
13	2	Hypersensitivity Its definition, different patterns, and diseases resulting from it	Hyperse	nsitivity	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
14	2	Natural and acquired immune deficiency Types and theories	Natura acquire deficie	l and ed immune ncy	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
15	2	Vaccination, types of vaccines	Vaccin	ation,	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
223. 0 for for	Course Evaluer the theoreties the practical	action: the evaluation me cal exam to extract the a l exam and 35% for the t	ethod is as innual eff heoretica	s follows: 15% ort from 40%. l exam.	for the practical ex As for the final exa	am and 25% am, it is 25%
224	earning of	nd Teaching Resource	00			
Require	d textbooks	(curricular books, if any)	63			
Main re	Main references (sources)				unology	
Recommission	Recommended books and references (scientific journals, reports)				ournals and resea	arch in the
Electron	nic Reference	es, Websites		Google sch	olar	
						_

225	225. Course Name: Protozoa						
226							
220. (10.110					
227	. Sem	ester / Year: Semester	r				
228	. Desc	ription Preparation D	Date:19/2/2024				
229	Δvai	lable Attendance For	ms. Lectures				
	. 11va		IIIS. Lectures				
230	. Num	ber of Credit Hours (Total) / Number	of U	Units (Total)		
(90 hours/6	units					
231	. Cour	rse administrator's nar	me (mention all,	if m	ore than one nar	ne)	
]	Name: Hai	der Hussein Obaid					
]	Email: hai	der.alseady.dw@atu	.edu.iq				
232	. Cour	se Objectives					
	 Identify the form, the cycle, and laboratory diagnosis of most types of pathogenic parasites. Identify the epidemiology and diseases that occur as a result of parasitic infection and the methods of transmission. 						
233	. Teac	hing and Learning St	rategies				
Strategy	7	• Theoretical le	cture method.				
		Practical lecture	re method.				
		• Method of dis	scussion and dial	ogu	9		
.Course	Structure						
Week	Hours	Required Learning	Unit or subject		Learning	Evaluation	
1		Outcomes	name		method	method	
	2	Defines the parasites ,parasitology types of parasites Types of host, Classification of parasites, Protozoa + metazoan	Defines the parasit	tes,	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly	
L	1	<u> </u>	l		<u>annogue</u>	I	

		Metazoa [helminthes			and annual
2	2	Introduction generally	Introduction	Theoretical	Tesearch Daily
		in characteristic	generally	lecture method	testing.
		feature of protozoa		Practical lecture	Quarterly
		and classification:-		method	test.
		Rhizopoda		Method of	Discussing
		,Mastigophora		discussion and	quarterly
		,Cilophora (ciliate)		dialogue	and annua
_		,Telospora	<u> </u>		research
3	2	Class Rhizopoda	Class Rhizopoda	Theoretical	Daily testir
		Pathogenic amoeba,		lecture	Quarterly t
		Entamoeda		Mathad of	Discussing
		Morphology life		discussion and	quarterry
		wolphology ,ine		discussion and	allu alliua
		Lab diagnosis		ulalogue	research
4	2	Few of morphology	Few of morphology	Theoretical	Daily testir
	2	.pathogenicity		lecture method	Ouarterly t
		,diagnosis of :-		Practical lecture	Discussing
		Entamoeba gingivalis,		method	quarterly
		A canthomoeba		Method of	and annua
		,Naegleria		discussion and	research
				dialogue	
5	2	Nonpathogenic	Nonpathogenic	Theoretical	Daily
		amoeba	amoeba	lecture method	testing.
		Different between		Practical lecture	Quarterly
		Entamoeba coli and E.		method Method	test.
		mstorytica.		discussion and	Discussing
		diagnosis of		dialogue	and annua
		Iodamoebabutschlii		ulalogue	research
		Endolimax nana E			researen
		dispar .Dientamoeba			
		fragilis			
6	2	Class Mastigophor or	Class Mastigophor	Theoretical	Daily
		Flagellates generally	or Flagellates	lecture	testing.
		introduction in		Practical lecture	Quarterly
		characteristic feature		Method of	test.
		and classification in		discussion and	Discussing
		(intestinal flagellate,		dialogue	quarterly
		blood and tissue			and annua
		flagellates, genital			research
		Flagellates). Intestinal			
		Flagellate: - Glardia			
		lamona ,Chilomastix			
		Trichomonachominic			
		Morphology life			
		cycle nathogenicity			
		pathogenetty	1	1	

7	2	Genital flagellate Trichomonas vaginales, Oral flagellates, Trichomonas tenax. Morphology, pathogenicity and lab. diagnosis	Genital flagellate	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research Daily	
0	2	flagellate Haemoflagellates forms. Lishmania donovani Lishmania tropica Lishmania brazeliencis Morphology ,life cycle ,pathogenicity, Lab. Diagnosis	flagellate Haemoflagellates forms.	lecture Practical lecture Method of discussion and dialogue	testing. Quarterly test. Discussing quarterly and annual research	
9	2	Trypanosoma cruzi Trypanosoma brucei Morphology ,life cycle ,pathogenicity, Lab. Diagnosis Sample of Tse-tse fly and Reduviid bug.	Trypanosoma cruzi Trypanosoma brucei Morphology.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research	
10	2	Class Ciliophra (cilata) Blantidium coli Morphology ,life cycle ,pathogenicity, Lab. diagnosis	Class Ciliophra (cilata) Blantidium coli Morphology	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research	
11	2		Review	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research	
12	2	Class Sporozoa Generally introduction of characteristic features of sporozoa. Life cycle in generally of Plasmodium spp. In man and insects.	Class Sporozoa Generally introduction of characteristic features of sporozoa.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research	
10				1		1
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15	2	Plasmodium vivax	Plasmod	ium vivax	Theoretical	Daily
		Plasmodium ovale			lecture	testing.
		pathogenicity, Lab.			Practical lecture	Quarterly
		Diagnosis			Method of	test.
		Plasmodium			discussion and	Discussing
		malariae Plasmodium			dialogue	quarterly
		falciparum				and annual
		Pathogenicity. Lab.				research
		diagnosis and short				
		notes of parasites				
		Babesia spp. The				
		differences in lab.				
		diagnosis with				
		Plasmodium spp.				
14	2	Isosporia belli ,	Isospori	a belli	Theoretical	Daily
		Toxoplasma gondii			lecture	testing.
		Morphology ,life			Practical lecture	Quarterly
		cycle ,pathogenicity,			Method of	test.
		Lab. diagnosis			discussion and	Discussing
		Cryptosporidium spp.			dialogue	quarterly
		Morphology ,life				and annual
		cycle ,pathogenicity,				research
1.5	-	Lab. diagnosis	D :		771 . 1	D 11
15	2		Review	and	Theoretical	Daily
			examina	tion	Dreatical le sture	testing.
					Practical lecture	Quarterly
					Method of	lest.
					discussion and	Discussing
					utalogue	quarterry
						research
235 Ca	ureo Evolu	ution the avaluation me	thad is a	follows 15%	for the prestical an	10500000000000000000000000000000000000
255.00	he theoretic	cal exam to extract the a	nnual eff	ort from 40%	Δs for the final example.	a m it is 25%
for th	ne meastical	ear exam to extract the a	haoratical		As for the final exc	uni, n 13 23 70
101 th	le practical	r exam and 55% for the t	lieorenca	exam.		
236 I e	arning ar	nd Teaching Resource	25			
Required t	extbooks (curricular books, if any)	00	Medical Pa	rasitology	
Main refer	ences (sou	rces)		medical hal	minthology	200
Wall Telef	ences (sou			metrical nei	minulology prot	JZUa
Recommen	nded boo	ks and references (se	cientific	Scientific i	ournals and rese	arch in the
journals, re	eports)	、 		field		
1 El	Reference	s. Websites		Google sch	olar	

237	. Cour	rse Name: Virology								
228		la. Vir								
238.										
239	. Seme	Semester / Year: Semester								
240	. Desc	ription Preparation D	ate:19/2/2024							
241	. Avai	lable Attendance For	ms: Lectures							
242	Num	ber of Credit Hours (Total) / Number o	f Units (Total)						
	$\frac{1}{45 \text{ hours}/3}$	units		i Olitis (10tal)						
243	. Cour	se administrator's na	me (mention all, if	more than one nam	ne)					
]	Name: Rug	la Yaya								
]	Email: ruq	ayaya89@gmail.con	1							
244	. Cour	rse Objectives								
Course	Objectives		•	Identify viruses.						
			•	knowing the types of a	iseases caused					
			•	. Know how to diagnos	se viruses and					
				how to treat them.						
245	Теас	hing and Learning St	rategies							
Strategy	. 10ac	• Theoretical le	ecture method							
		Practical lecture	re method							
		I factical feet Mathed of dis	ne memou.	<u>ano</u>						
		• Method of dis		gue						
246.Co	ourse Struc	ture								
Week	Hours	Required Learning	Unit or subject	Learning	Evaluation					
1	1	Outcomes	name General propertie	method Theoretical	method Daily					
1	1	General properties	of virus	lecture method	testing.					
		of virus, structure,		Practical lecture	Quarterly					
		classification of		method	test.					
		DNA & RNA		Method of discussion and	Discussing					
		viruses.		dialogue	and annual					
				-	research					
2	1	Replication of DNA	Replication	Theoretical	Daily					
		and KNA virus		lecture method	testing.					

·			Γ		,
				Practical lecture method Method of discussion and dialogue	Quarterly test. Discussing quarterly and annual research
3	1	Virus isolation & cultivation.	Virus isolation	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
4	1	Chemotherapy, antiviral agent & vaccines.	Chemotherapy,	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
5	1	Influenza viruses	Influenza viruses	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
6	1	Paramyxo & Robella viruses	Paramyxo	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
7	1	Enteric viruses, Rhinovirus group.	Enteric viruses	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8	1	Pathogenesis of viruses and Genetic of viruses	Pathogenesis of viruses	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research

				Γ	v
9	1	Herpes viruses	Herpes viruses	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10	1	Oncogenic viruses	Oncogenic viruses	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
11	1	Hepatitis viruses	Hepatitis	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12	1	Rubies & other neurotropic viruses Arbo viruses & viral haemorrhagic viruses	Rubies & other neurotropic viruses	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
13	1	Arbo viruses & viral haemorrhagic viruses	Arbo viruses	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
14	1	Adeno, pox & parvo viruses	Adeno, pox & parvo viruses	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
15	1	Retro & Adis	Retro & Adis	Theoretical lecture Practical lecture	Daily testing.

	M d d	Method of liscussion and lialogue	Quarterly test. Discussing quarterly and annual research
247. Course Evaluation: the evaluation method is a for the theoretical exam to extract the annual eff for the practical exam and 35% for the theoretical	s follows: 15% f fort from 40%. A ll exam.	for the practical ex as for the final exa	am and 25% m, it is 25%
248. Learning and Teaching Resources			
Required textbooks (curricular books, if any)			
Main references (sources)	levinson		
Recommended books and references (scientific journals, reports)	jawitz		
Electronic References, Websites	Google schol	lar	

249. Course Name: Medical Ethics
250. Course Code: Med. Eth
251. Semester / Year: Semester
252. Description Preparation Date: 19/2/2024
253. Available Attendance Forms: Lectures
254. Number of Credit Hours (Total) / Number of Units (Total)
30 hours/2units
255. Course administrator's name (mention all, if more than one name)
Name: Wisam Faris Abd Al-Amir
Email: <u>wisam.jasem@atu.edu.iq</u>
Name: Mona Qafel Abed
Email: mona.hussein@atu.edu.iq
256. Course Objectives
• Introducing the basic principles of professional ethics of medical workers.
Objectives • Qualifying graduates for the essential ethics in their interaction with their profession.
76

	•	Achieving harmony within thems	elves and profes	ssional environme	nt.
257.Te	eaching	and Learning Strategies			
Strategy		 Theoretic lectures stra Conversation and discussion Regular testing strateget 	itegy. ussion strat gy.	egy.	
258. Co	ourse St	tructure			
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	2	 The principles of medical ethics in different early civilizations. The principles of medical professions in the Arabic Islamic civilization. The manners of dealing with patients since then until now Medical ethics: definition – concent - applications – the 	The principles medical ethics Medical ethics: definition	 Theoretic lectures strategy. Conversat ion and discussio n strategy. Theoretic 	 Daily quizzes Quarterly testing. Annual examination. Daily quizzes Quarterly
		concept - applications – the relationship between the workers.	and concept	lectures strategy. Conversation and discussion strategy.	 Quarterly testing. Annual examination.
Third	2	 The basic manners of the profession: The characteristics of a medical worker, commitment, appearance, manners. The legal rights of patients. Dealing with the patients and their families 	The basic manners of the profession	 Theoretic lectures strategy. Conversat ion and discussio n strategy. 	 Daily quizzes Quarterly testing. Annual examination.

Fourth	2	 Connection methods: lingual and non-lingual. Definition, types, effects, producing successful methods. How such methods effects manners, listening and how students practice them wit practical examples. 	Connection methods	•	Theoretic lectures strategy. Conversat ion and discussio n strategy.	•	Daily quizzes Quarterly testing. Annual examination.
Fifth	2	Behavioral tendencies: Definition, types, influencing factors, measuring methods	Behavioral tendencies	•	Theoretic lectures strategy. Conversat ion and discussio n strategy.	•	Daily quizzes Quarterly testing. Annual examination.
sixth	2	 Values, habits and traditions: Definition, types, influencir factors, measuring method 	Values, habits and traditions	•	Theoretic lectures strategy. Conversat ion and discussio n strategy.	•	Daily quizzes Quarterly testing. Annual examination.
seventh	2	 Personality types and how to deal with them: Definition, types, relation to the medical profession. The personality of the technicians and their manifestation 	Personality type	•	Theoretic lectures strategy. Conversat ion and discussio n strategy.	•	Daily quizzes Quarterly testing. Annual examination.
eighth	2	Mental health improvements Definition, influencing factor the role of mental health in t profession	Mental health improvement	•	Theoretic lectures strategy. Conversat ion and discussio n strategy.	•	Daily quizzes Quarterly testing. Annual examination.
ninth	2	 The ethics and the manner of dealing with patients: Patients reception, dealing with them, 	The ethics and manner of dealing with patients	•	Theoretic lectures strategy.	•	Daily quizzes Quarterly testing.

		 earning their trust, and maintain privacy. Scheduling needed procedures. Preserving the patients belongings 			Conversat ion and discussio n strategy.	•	Annual examination.
tenth	2	The ethics and manners of dealing with medical equipments and machines: • Preparing the essential equipments before work. • Maintaining, sustaining and preserving the machines tools, solutions and different equipments of the laborator	The ethics and manner of dealing with medical equipments and machines	•	Theoretic lectures strategy. Conversat ion and discussio n strategy.	•	Daily quizzes Quarterly testing. Annual examination.
Eleventh	2	Applications of medical ethics	Applications of medical ethics	•	Theoretic lectures strategy. Conversat ion and discussio n strategy.	•	Daily quizzes Quarterly testing. Annual examination.
259.Co	ourse Ev	valuation					
30%	for the	annual endeavor and 70%	for the final	exa	am.		
260. Le	arning a	and Teaching Resources					
Required t	s (curricular books, if any)	Medical Ethic For the Au Students	es ithoi	rity of Te	chni	cal Institutes	
Main refer	ences (s	ources)					
Recomment (scientific	nded boo journals,	ks and references reports)	Scientific jou	rnal	s and resear	ch ir	n the field

261. Course Name: The crimes of the Baath regime in Iraq

2021										
263	S. Sem	ester / Year:Semester								
264	Dog	Description Preparation Date: 10/2/2024								
204	. Dest	Description Preparation Date: 19/2/2024								
265	. Avai	Available Attendance Forms: Lectures								
266	Number of Credit Herry (Tetal) / Number of H. (T. (1)									
200	30 hours/2	unite	10tal) / Inulin	ber of t	Units (Total)					
267	1000000000000000000000000000000000000	rse administrator's nar	me (mention a	oll. if n	ore than one nan	ne)				
Name:	zaid khuc	lhur								
Email:	zaid.berm	any@atu.edu.iq								
268	S. Cou	rse Objectives								
Course (Objectives	~		At the e	nd of the course the stud	lent will be abl				
				The stuc	lent gets to know the co	ncept of crime				
				Lear	n about the dictatorshi	p of the form				
				regime		L				
269). Teac	hing and Learning St	rategies							
Strategy • Theoretical lecture method.										
Juangy	Ŷ	Theoretical le	cture method.	•						
Juangy	Ŷ	Theoretical lePractical lecture	cture method. re method.							
Juangy	y	Theoretical lePractical lectuMethod of dis	cture method. are method. cussion and d	lialogu	e					
70 Cc	y ourse Struc	 Theoretical le Practical lectu Method of disture 	cture method. are method. scussion and d	lialogu	e					
270.Cc Week	ourse Struc Hours	 Theoretical le Practical lectu Method of dis ture Required Learning 	cture method. are method. scussion and d Unit or subject	lialogu	e Learning	Evaluatio				
270.Cc Week	ourse Struc Hours	 Theoretical le Practical lecture Method of disture Required Learning Outcomes 	cture method. are method. scussion and d Unit or subject name	lialogu :t	e Learning method	Evaluatio method				
270. Co Week	ourse Struc Hours 2	 Theoretical le Practical lecture Method of disting ture Required Learning Outcomes Understanding the 	cture method. are method. scussion and d Unit or subject name Introduction to concept of crimes	ialogu	e Learning method Theoretical	Evaluatio method Daily				
270.Cc Week	ourse Struc Hours 2	 Theoretical le Practical lecture Method of distruct Required Learning Outcomes Understanding the dictatorial regime 	Cture method. The method. Soussion and d Unit or subject name Introduction to concept of crimes	ialogu	e Learning method Theoretical lecture method Practical lecture	Evaluatio method Daily testing. Quarterly				
270. Co Week	ourse Struc Hours 2	 Theoretical le Practical lecture Method of disting Ture Required Learning Outcomes Understanding the dictatorial regime and avoid it in 	Cture method. The method. Scussion and d Unit or subject name Introduction to concept of crimes	ialogu	e Learning method Theoretical lecture method Practical lecture method	Evaluatio method Daily testing. Quarterly test.				
270.Cc Week	ourse Struc Hours 2	 Theoretical le Practical lecture Method of district Method of district Understanding the dictatorial regime and avoid it in future 	Cture method. The method. Soussion and d Unit or subject name Introduction to concept of crimes	ialogu	e Learning method Theoretical lecture method Practical lecture method Method of	Evaluation method Daily testing. Quarterly test. Discussing				
270. Co Week	ourse Struc Hours 2	 Theoretical le Practical lecture Method of disting ture Required Learning Outcomes Understanding the dictatorial regime and avoid it in future 	Cture method. The method. Scussion and Control of Contr	ialogu	e Learning method Theoretical lecture method Practical lecture method Method of discussion and	Evaluatio method Daily testing. Quarterly test. Discussin quarterly				
270. Co Week 1	ourse Struc Hours 2	 Theoretical le Practical lecture Method of districture Required Learning Outcomes Understanding the dictatorial regime and avoid it in future 	Cture method. The method. Secussion and C Unit or subject name Introduction to concept of crimes	ialogu	e Learning method Theoretical lecture method Practical lecture method Method of discussion and dialogue	Evaluation method Daily testing. Quarterly test. Discussing quarterly and annu				
270.Cc Week	ourse Struc Hours 2	 Theoretical le Practical lecture Method of disting Method of disting<td>Cture method. The method. Secussion and Constraints Unit or subject name Introduction to concept of crimes</td><td>ialogu</td><td>e Learning method Theoretical lecture method Practical lecture method Method of discussion and dialogue</td><td>Evaluation method Daily testing. Quarterly test. Discussing quarterly and annu research</td>	Cture method. The method. Secussion and Constraints Unit or subject name Introduction to concept of crimes	ialogu	e Learning method Theoretical lecture method Practical lecture method Method of discussion and dialogue	Evaluation method Daily testing. Quarterly test. Discussing quarterly and annu research				
270. Cc Week 1 2	ourse Struc Hours 2 2	 Theoretical le Practical lecture Method of disting ture Required Learning Outcomes Understanding the dictatorial regime and avoid it in future Understanding the dictatorial regime and avoid it in future 	Cture method. The method. Scussion and Control of Control of Concept of crimes History of committed by	iialogu	e Learning method Theoretical lecture method Practical lecture method Method of discussion and dialogue Theoretical lecture method	Evaluation method Daily testing. Quarterly test. Discussing quarterly and annu research Daily testing				
270. Cc Week 1 2	2 2	 Theoretical le Practical lecture Method of disting ture Required Learning Outcomes Understanding the dictatorial regime and avoid it in future Understanding the dictatorial regime 	Cture method. The method. Scussion and Control of the second seco	t ct ct ct ct crime crime the	e Learning method Theoretical lecture method Practical lecture method Method of discussion and dialogue Theoretical lecture method Practical lecture	Evaluatio method Daily testing. Quarterly test. Discussing quarterly and annu research Daily testing. Quarterly				
270. Cc Week 1 2	ourse Struc Hours 2 2	 Theoretical le Practical lecture Method of disting Ture Required Learning Outcomes Understanding the dictatorial regime and avoid it in future Understanding the dictatorial regime and avoid it in future 	Execture method. are method. Scussion and constraints Unit or subjection Introduction td Concept of crimes History of committed by authority by	t ct ct crime crime the	e Learning method Theoretical lecture method Practical lecture method Method of discussion and dialogue Theoretical lecture method Practical lecture method	Evaluation method Daily testing. Quarterly test. Discussing quarterly and annu- research Daily testing. Quarterly test.				
270. Cc Week 1 2	2 2	 Theoretical le Practical lecture Method of disting the dictatorial regime and avoid it in future Understanding the dictatorial regime and avoid it in future 	Execture method. are method. Scussion and constraints Unit or subjection Introduction tc Concept of crimes History of committed by authority	ialogu	e Learning method Theoretical lecture method Practical lecture method Method of discussion and dialogue Theoretical lecture method Practical lecture method Method of discussion and dialogue	Evaluation method Daily testing. Quarterly test. Discussing quarterly and annu- research Daily testing. Quarterly test. Discussing				
270. Cc Week 1 2	ourse Struc Hours 2 2	 Theoretical le Practical lecture Method of disting the dictatorial regime and avoid it in future Understanding the dictatorial regime and avoid it in future 	Cture method. are method. scussion and constraints Unit or subjection name Introduction td concept of crimes History of committed by authority	ialogu	e Learning method Theoretical lecture method Practical lecture method Method of discussion and dialogue Theoretical lecture method Practical lecture method Method of discussion and	Evaluatio method Daily testing. Quarterly test. Discussing quarterly and annu- research Daily testing. Quarterly test. Discussing quarterly				
270. Cc Week 1 2	2 2	 Theoretical le Practical lecture Method of disting ture Required Learning Outcomes Understanding the dictatorial regime and avoid it in future Understanding the dictatorial regime and avoid it in future 	Cture method. The method. Secussion and Control of Concept of crimes History of committed by authority	ialogu	e Learning method Theoretical lecture method Practical lecture method Method of discussion and dialogue Theoretical lecture method Practical lecture method Method of discussion and dialogue	Evaluation method Daily testing. Quarterly test. Discussing quarterly and annu- research Daily testing. Quarterly test. Discussing quarterly and annu-				
270. Cc Week 1 2	2 2	 Theoretical le Practical lectu Method of disting the dictatorial regime and avoid it in future Understanding the dictatorial regime and avoid it in future 	Crime departments	to	e Learning method Theoretical lecture method Practical lecture method Method of discussion and dialogue Theoretical lecture method Practical lecture method Method of discussion and dialogue	Evaluation method Daily testing. Quarterly test. Discussing quarterly and annua research Daily testing. Quarterly test. Discussing quarterly and annua research				
270. Cc Week 1 2 3	2 2 2	 Theoretical le Practical lectu Method of disting the dictatorial regime and avoid it in future Understanding the dictatorial regime and avoid it in future Understanding the dictatorial regime and avoid it in future 	Crime department	ialogu ct o the crime the	e Learning method Theoretical lecture method Practical lecture method Method of discussion and dialogue Theoretical lecture method Practical lecture method Method of discussion and dialogue Theoretical lecture method Method of discussion and dialogue	Evaluation method Daily testing. Quarterly test. Discussing quarterly and annua research Daily testing. Quarterly test. Discussing quarterly and annua research Daily test. Discussing quarterly and annua research				

	1		ſ	Γ	
		and avoid it in future		Method of discussion and dialogue	Discussing quarterly and annual research
4	2	Understanding the dictatorial regime and avoid it in future	Crime departments.	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
5	2	Understanding the dictatorial regime and avoid it in future	Types of international crimes	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
6	2	Understanding the dictatorial regime and avoid it in future	Types of international crimes.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
7	2	Understanding the dictatorial regime and avoid it in future	Human rights in Roman civilization.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8	2	Understanding the dictatorial regime and avoid it in future	Decisions issued by the Supreme Court.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	2	Understanding the dictatorial regime and avoid it in future	Decisions issued by the Supreme Court.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research

10	2	Understanding the dictatorial regime and avoid it in future	Decisions issued by the Supreme Court.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
11	2	Understanding the dictatorial regime and avoid it in future	Psychological crimes.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12	2	Understanding the dictatorial regime and avoid it in future	Mechanisms of psychological crimes.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
13	2	Understanding the dictatorial regime and avoid it in future	Psychological effects of crimes.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
14	2	Understanding the dictatorial regime and avoid it in future	Baath crimes against religion	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
15	2	Understanding the dictatorial regime and avoid it in future	Baath crimes against religion.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
271.3	30% for t	he annual endeavor and	d 70% for the final e	xam.	

272. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	The main book supply by the ministry of
	higher education
Main references (sources)	Al baath crime's
Recommended books and references (scientific	Scientific journals and research in the field
journals, reports)	
Electronic References, Websites	Google scholar

273.	Course Name: Bacterial pathogenicity	
274. Cour	rse Code: Bac.Pat	
275		
275.	Semester / Year: Semester	
276	Description Proposition Data 10/2/202	Λ
270.	Description Preparation Date: 19/2/202	4
277.	Available Attendance Forms: Lectures	
270		
278.	Number of Credit Hours (Total) / Num	ber of Units (Total)
90 h	ours/6 units	11 * C
279.	Course administrator's name (mention	all, if more than one name)
Nam	ie: Dr. bareq A. ALlateer	the oder in
Ema	II: <u>Dareq.as86@gmail.com</u> <u>" Darq10@a</u>	atu.eau.iq
Course Objec		 Assistance in laboratory investigation of the examined samples by implantation. Assistance in how to isolate and diagnose ailments. Assisting the doctor in diagnostic and therapeutic procedures during the isolation procedure and different genus of pathogenic bacteria study.
281.	Teaching and Learning Strategies	
Strategy	Theoretical lecture method	1.
	• Practical lecture method.	
	Method of discussion and	dialogue
	83	

282.C	282. Course Structure						
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method		
1	2	Systemic bacteriology, Genus Staphylococcus, General characters , toxin production , enzyme , immunity, Sensitivity test.	Systemic bacteriology	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research		
2	2	Genus Streptococcus General characters. Bio chemical test, Antigenic characters, M protein Streptococcus group A, diseases, toxin, and immunity.	Genus Streptococcus General characters.	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research		
3	2	Streptococcus group B, C, D. Biochemical reaction, immunity, diseases. Streptococcus pneumonia and Streptococcus variance disease, antigenic structure.	Streptococcus group B, C, D.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research		
4	2	Gram positive bacilli – Corynebacterium diphtheria. Shape of bacteria, virulence, toxin, immunity, shick test. Antitoxin, skin test.	Gram positive bacilli	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research		
5	2	Genus Mycobacterium , general characters, Classification of bacteria , growth , antigenic structure , Disease, immunity.	Genus Mycobacterium , general characters	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research		
6	2	GenusBacillus,Bacillus anthraces.Generalcharacters,biochemicalreaction,antigenicstructure,toxin, immunity	Genus Bacillus, Bacillus anthraces.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly		

7	2	Anaerobic bacteria – Clostridium, general characters. Clostridium perifringeus , general characters . Antigen structure, biochemical reaction, virulence, toxin. Clostridium tetani , disease , immunity, antigenic structure	Anaerobic bacteria – Clostridium	Theoretical lecture Practical lecture Method of discussion and dialogue	research Daily testing. Quarterly test. Discussing quarterly and annual research
8	2	Genus Neisseria, general characters, biochemical reaction. Neisseria gonorrhea, antigenic structure, virulence. Neisseria meningitides, immunity, sensitivity test. Antigenic structure, virulence, immunity	Genus Neisseria,	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	2	Genus Haemophilus, general characters , growth factors , Virulence, immunity. Genus Bordetella, general characters, disease.	Genus Haemophilus.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10-11	2	Family Enterobacteriaceae , General characters , classification , biochemical reaction , Antigenic characters, sugar fermentation, sensitivity test. Genus Escherichia coli, Klebsiella, diseases, virulence, Immunity.	Genus Vibirio,.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12	2	Genus Vibirio, history of disease, general characters, Antigenic structure, virulence, immunity, treatment.	Genus Vibirio,	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly

T						
		Classical Vibirio EL-				and annual
		TOR biotype.				research
		Vibirio parahaemical.				
12		Campylobacter jejuni.			TT1 (* 1	D 11
13	2	Genus Brucella,	Genus E	rucella		Daily
		general characters,			lecture	testing.
		diseases, species,			Practical lecture	Quarterly
		ZOOMOSIS.			discussion and	lest.
		reisilla pesus ,			dislogue	Discussing
		virulence diseases			ulalogue	and annual
		virulence, diseases				research
14	2	Francisella general	Francise	lla general	Theoretical	Daily
17	Z	charactera	characta	ra general	lecture	testing
		the second secon	characte	18	Practical lecture	Ouarterly
		transmition diseases,			Method of	test.
		viruience, syphilis,			discussion and	Discussing
		VDKL.			dialogue	quarterly
		shorectore stip direct			U	and annual
		smaar Myconlasma				research
		shape virulence				
		Lab.dignosis				
15	2	Chlamydia . general	Chlamy	dia	Theoretical	Daily
	-	characters shape	Circuity		lecture	testing.
		biochemical test			Practical lecture	Quarterly
		Virulence, immunity			Method of	test.
		· · - · - · · · · · · · · · · · · ·			discussion and	Discussing
					dialogue	quarterly
						and annual
						research
283. 0	Course Evalu	ation: the evaluation me	thod is as	s follows: 15%	for the practical ex	am and 25%
for	the theoreti	cal exam to extract the a	nnual eff	ort from 40%.	As for the final exa	am, it is 25%
for	the practica	l exam and 35% for the t	heoretica	exam.		
284. I	Learning a	nd Teaching Resource	es			
Required	d textbooks ((curricular books, if any)		Medical mic	robiology	
	terences (sou	irces)		BASIC BACTERIOLOGY		
Main ref	Recommended books and references (scientific		cientific	Warren	Levinson, M	D, PhD
Main ref Recomm				San	Francisco,	California
Main ref Recomm journals,	, reports)			Lanuar - 001	/	
Main ref Recomm journals,	, reports)	ng Wahsitag		January 201	4	dical
Main ref Recomm journals, Electron	, reports) ic Reference	es, Websites		January 201 https://www	4 v.amazon.com/Med	dical-
Main ref Recomm journals, Electron	, reports)	es, Websites		January 201 https://www Microbiolog	4 w.amazon.com/Mea y-Immunology-Elev	dical- ⁄enth-

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4	0	J	•

Course Name: Hematology\2

286.	Course Co	de: Hem				
287	7. Sem	nester / Year: Semester	r			
200		anintian Dranauation D	Nota 10/2/2024			
200	5. Des	cription Preparation L	Jale. 19/2/2024	-		
289). Ava	ilable Attendance For	ms: Lectures			
290). Nun	nber of Credit Hours (Total) / Numb	oer of U	Units (Total)	
	90 hours/6	units	·			
291	l. Cou	rse administrator's na	me (mention a	ll, if m	nore than one nam	ne)
-	Name: Ali	Mouged fadell				
	Email: ald	hmoshyali @gmail.co	om			
292	2. Cou	rse Objectives				
Course Objectives				• Kno	owledge of the media	cal system,
				labor	atory tests, and diag	nosis of
				• Knc	wing blood types n	erforming
				all la	boratory tests, and di	iagnosing
				disea	se cases.	
				• K1	nowledge of W.B	.C, clottir
202	2 Taa	ahing and Learning St	ratagias	factor	rs, acute and chronic	leukemia
293 Stratem	$\frac{1}{2}$	The emilie of the	rategies			
Strategy	y	• Theoretical le	cture method.			
		Practical lecture	are method.			
		Method of dis	scussion and d	ialogu	e	
294.C	ourse Struc	cture				
Week	Hours	Required Learning	Unit or subjec	t	Learning	Evaluation
1	2	Unormontogia	name		method Theoretical	Doily
1	Z	definition and types	naemostasis		lecture method	testing
		.The role of blood			Practical lecture	Quarterly
		Vessels and Platelet in			method	test.
		Haemostasis.			Method of	Discussing
					discussion and	quarterly
					dialogue	and annua
2	2	Coagulation factors.	Coagulation fac	ctors	Theoretical	Daily
—		name and figures			lecture method	testing.
					Practical lecture	Quarterly
					method	test.
					Method of	Discussing
			-		EUINCHNNIOH ZHO	

					and annual
3	2	Coagulative	Coagulative	Theoretical	research Daily testin
2	2	Processes.	Processes.	lecture Practical lecture Method of discussion and dialogue	Quarterly t Discussing quarterly and annua research
4	2	Haemostasis disorder types. Haemostasis due to blood vessels disorder	Haemostasis disorder types.	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testin Quarterly t Discussing quarterly and annua research
5	2	Haemostasis due to blood platelet disorder	Haemostasis	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annua research
6	2	Haemostasis due to Coagulative disorder.	Haemostasis	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annua research
7	2	The White blood Cells, types.	White blood Cells	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annua research
8	2	The maturation of W.B.C.	maturation of W.B.C.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annua research
9	2	The function of W.B.C.	function of W.B.C.	Theoretical lecture Practical lecture	Daily testing. Quarterly test.

·			[· · · · · · · · · · · · · · · · · ·
				Method of	Discussing
				discussion and	quarterly
				dialogue	and annual
					research
10	2	Leukocytosis.	Leukocytosis.	Theoretical	Daily
				lecture	testing.
				Practical lecture	Quarterly
				Method of	test.
				discussion and	Discussing
				dialogue	quarterly
					and annual
					research
11	2	Leukopenia.	Leukopenia.	Theoretical	Daily
				lecture	testing.
				Practical lecture	Quarterly
				Method of	test.
				discussion and	Discussing
				dialogue	quarterly
					and annual
		T 1 1 1 2 1 1	T 1 ·		research
12	2	Leukemia, definition	Leukemia	Theoretical	Daily
		and classification.		lecture	testing.
				Practical lecture	Quarterly
				Method of	test.
				discussion and	Discussing
				dialogue	quarterly
					and annual
12	2	Chronic and coute	Chronic and coute	Theoretical	Deily
15	Z	myoloid I	myalaid I	locturo	Daily
		iliyelolu. L	myelolu. L.	Dractical lecture	Quarterly
				Method of	Quarterry
				discussion and	Discussing
				dialogue	Discussing
				ulalogue	and annual
					research
14	2	Chronic and acute	Chronic and acute	Theoretical	Daily
17	2	myeloid I	myeloid I	lecture	testing
				Practical lecture	Ouarterly
				Method of	test.
				discussion and	Discussing
				dialogue	quarterly
					and annual
					research
15	2	Chronic and acute	Chronic and acute	Theoretical	Daily
	-	Monocytic .L	Monocytic .L	lecture	testing.
				Practical lecture	Quarterly
				Method of	test.
				discussion and	Discussing
				dialogue	quarterly

	and annual research
295. Course Evaluation: the evaluation method is as for the theoretical exam to extract the annual effort from the theoretical exam to extract the annual effort from the theoretical exam to extract the annual effort from the theoretical exam to extract the annual effort from the theoretical exam to extract the annual effort from the theoretical exam to extract the annual effort from the theoretical exam to extract the annual effort from the theoretical exam to extract the theoretical exam to extract the exam to extract the theoretical exam to extract the exam to extract the exam to extract the theoretical exam to extract the exam to extract the theoretical exam to extract the extract the exam to extract the extra the extract the extract the extract the extra the extre the e	s follows: 15% for the practical exam and 25% for the final exam it is 25% for the
practical exam and 35% for the theoretical exam.	
295. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Clinical hematology in medical practice
Main references (sources)	
Recommended books and references (scientific	Scientific journals and research in the
journals, reports)	field
Electronic References, Websites	Google scholar

296.	Course Name: Clinical chemistry\2	
297. Course	e Code: Cl.ch	
277. 00015		
298.	Semester / Year: Semester	
299.	Description Preparation Date: 19/2/2024	1
300.	Available Attendance Forms: Lectures	
301.	Number of Credit Hours (Total) / Number	ber of Units (Total)
90 hou	ars/6 units	
302.	Course administrator's name (mention a	all, if more than one name)
Name	: Thikra jawad	
Email	thikra.jawad@atu.edu.iq	
303.	Course Objectives	
Course Objecti	ves	 Conducting all chemical tests on the blood. Knowing how to conduct laboratory tests, identify diseases, and compare them to nature. Knowing all the components of carbohydrates, fats, enzymes, proteins, etc.
304.	Teaching and Learning Strategies	
Strategy	Theoretical lecture method.	
	• Practical lecture method.	
	90	

		Method of dis	scussion and dialogu	e	
305.Co	ourse Stru	cture			
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
3-1	2	Proteinmetabolismand renal function 1-SerumProtein(components),2-Aminoacidmetabolism, 3-fate ofammonia,4-Ureacycle,ureametabolismandrenalfunctiontests	Protein metabolism and renal function	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
6-4	2	Lipid metabolism 1- fatty acids oxidation 2- ketone bodies Lipid profile and disorder in lipid profile (cholesterol, triglycerides, lipoproteins)	Lipid metabolism	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
7	2	Disorders of purine and pyrimidine Uric acid metabolism (synthesis and hyperuricemia)	Disorders of purine and pyrimidine	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly test Discussing quarterly and annual research
8	2	Exam	Exam	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly test Discussing quarterly and annual research
9	2	Introductiontoenzyme (definition ofenzymology)CreatinkinaseCK(isoenzymes)LactatedehydrogenaseLDH(isoenzymes)	Introduction to enzyme (definition of enzymology)	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10-11	2	Liver function tests Bilirubin metabolism Jaundice (adult and neonatal jaundice)	Liver function tests	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly

		Hepatitis and liver				and annual
		function tests				research
12	2	Tumor markers	Tumor r	narkers	Theoretical	Daily
					lecture	testing.
					Practical lecture	Quarterly
					Method	of test.
					discussion a	nd Discussing
					dialogue	quarterly
						and annual
						research
13-15	2	Hormones	Hormo	nes	Theoretical	Daily
		1- Thyroid hormones			lecture	testing.
		(Thyroid function			Practical lecture	Quarterly
		tests, parathyroid			Method	of test.
		hormones)			discussion at	a Discussing
		Fertility hormones			dialogue	quarterly
		(testosterone,				and annual
		luteinizing hormone,				research
		prolactin, follicular				
		stimulating hormone)				
•						
306.	Course Evalu	uation: the evaluation me	thod is as	follows: 15%	for the practical of	exam and 25%
for	the theoreti	cal exam to extract the ar	nnual effo	ort from 40%. A	As for the final ex	am, it is 25%
for	the practica	l exam and 35% for the t	heoretica	l exam		
307.]	Learning a	nd Teaching Resource	es			
Required textbooks (curricular books, if any)				Biochemist	ry	
Main references (sources)			CHOLESTEROL CLINICAL			
				PRACTICE GUIDELINES		
Recommended books and references (scientific			Scientific journals and research in the			
journals	, reports)			field		
Electror	nic Reference	es, Websites		Google scholar		

308.	Course Name: Clinical Immunology
309. Cou	rse Code: CI .IM
310.	Semester / Year: Semester
311.	Description Preparation Date: 19/2/2024
312.	Available Attendance Forms: Lectures
313.	Number of Credit Hours (Total) / Number of Units (Total)

	90 hours/6	unite				
314		rse administrator's na	me (mention all if	more than one nam	ne)	
	Name: Mu	na sabbar jebar	ine (mention un, n			
]	Email: mur	najebar@gmail.com				
315	. Cou	rse Objectives				
Course	Objectives		Ider and • Id syst • L hep	Identify the most important immune and rheumatic diseases.• Identify diseases of the digestive system and liver.• Learn how to detect autoimmune hepatitis and some other diseases		
316	5. Teac	hing and Learning St	rategies			
Strategy	7	Theoretical le	cture method.			
		Practical lecture	re method.			
		• Method of dis	scussion and dialog	ue		
317.Co	ourse Struc	ture				
Week	Hours	Required Learning	Unit or subject	Learning	Evaluation	
1	2	Rheumatic	Rheumatic	Theoretical	Daily	
1	2	diseases and Rheumatoid arthritis	diseases and Rheumatoid arthritis	l lecture method Practical lecture method Method of discussion and dialogue	testing. Quarterly test. Discussing quarterly and annual research	
2	2	Systemic lupus erythromatous and Psoriatic arthritis	Systemic lupus erythromatous and Psoriatic arthritis	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research	
3	2	Ankylosing Spondylitis and Sjogren's syndrome	Ankylosing Spondylitis and Sjogren's syndrome	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research	
4	2	Behcet's disease	Behcet's disease	Theoreticallecture methodPractical lecturemethodMethoddiscussionanddialogue	Daily testing Quarterly tes Discussing quarterly and annual research	

		_	r	1	
5	2	1-Gluten sensitive entero-pathy 2-Ulcerative colitis 3-Crohn's disease	Gluten sensitive entero-pathy	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
6	2	Pernicious anemia	Pernicious anemia	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
7	2	Diabetes Mellitus Type I	Diabetes Mellitus Type I	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
8	2	Review	Review	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	2	Knowledge of autoimmune hepatitis diseases	Autoimmune hepatitis	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10	2	Primary biliary cirrhosis and primary sclerosing cholangitis	Primary biliary cirrhosis and primary sclerosing cholangitis	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
11	2	Renal diseases -Circulating immune complex	Renal diseases	Theoretical lecture Practical lecture	Daily testing.
			94		

12 2 Respiratory disease 1- Respiratory disease 2- Theoretical becture Daily lecture 13 2 Immunological thyroid disease and Immunological infertility Immunological thyroid disease and Immunological infertility Immunological thyroid Immunological thyroid Theoretical discussion and dialogue Daily test. Quarterly and annua research 14 2 Tumor markers Tumor markers Tumor Theoretical testing. Daily test. Practical lecture 15 2 Graft versus transplantation Tumor Theoretical testing. Daily test. Discussin discussion and dialogue Daily test. discussion and dialogue 15 2 Graft versus for the theoretical exam to extract the annual effort from 40%. As for the final exam, it is 25% for the practical exam and 35% for the theoretical exam. Daily test. Discussin dialogue 318. Course Evaluation: the evaluation method is as follows: 15% for the practical exam and 25% for the practical exam and 35% for the theoretical exam. Discussin dialogue 319. Learning and Teaching Resources Clinical Immunology Recommended books, and references (scientific Clinical Immunology			-In situ immune complex formation -Antineutrophil cytoplasmic autoantibodies and associated diseases			Method of discussion and dialogue	Quarterly test. Discussing quarterly and annual research
13 2 Immunological thyroid disease and Immunological infertility Immunological thyroid Immunological thyroid Theoretical lecture Method of discussion and dialogue Daily testing. Quarterly and annue research 14 2 Tumor and Tumor markers Tumor Tumor markers Tumor Theoretical discussion and dialogue Daily test. Discussin quarterly testing. Quarterly testing. Quarterly testing. Quarterly testing. Quarterly testing. 15 2 Graft versus host rejection transplantation Graft versus host rejection and transplantation Graft versus host rejection and transplantation Theoretical lecture Practical lecture Practical lecture Practical lecture Practical lecture Practical lecture Method of discussion and dialogue Daily test. Discussin quarterly and annue research 318. Course Evaluation: the evaluation method is as follows: 15% for the practical exam and 25% for the theoretical exam to extract the annual effort from 40%. As for the final exam, it is 25% for the practical exam and 35% for the theoretical exam. 319. Learning and Teaching Resources Clinical Immunology Main references (sources) Clinical Immunology Recommended books and references (scientific	12	2	Respiratory disease 1- Drug-induced respiratory disease 2- Eosinophilic pneumonia 3- Asthma	Respirat	ory disease	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
14 2 Tumor and Tumor markers Tumor Tumor markers Tumor maresearch Tumor markers Tum	13	2	Immunological thyroid disease and Immunological infertility	Immun thyroid	ological	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
152Graft versus host rejection transplantationGraft versus host rejection and transplantationTheoretical lecture Practical lecture Method of discussion and dialogueDaily testing. Quarterly test.318. Course Evaluation: the evaluation method is as follows: 15% for the practical exam and 25% for the theoretical exam to extract the annual effort from 40%. As for the final exam, it is 25% for the practical exam and 35% for the theoretical exam.319. Learning and Teaching Resources Required textbooks (curricular books, if any)Clinical ImmunologyMain references (sources)Clinical ImmunologyRecommended books and references (scientific Scientific iournals and research in the	14	2	Tumor and Tumor markers	Tumor		Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
318. Course Evaluation: the evaluation method is as follows: 15% for the practical exam and 25% for the theoretical exam to extract the annual effort from 40%. As for the final exam, it is 25% for the practical exam and 35% for the theoretical exam. 319. Learning and Teaching Resources Required textbooks (curricular books, if any) Main references (sources) Clinical Immunology Recommended books and references (scientific	15	2	Graft versus host rejection and transplantation	Graft v rejectic transpla	ersus host on and antation	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
319. Learning and Teaching Resources Required textbooks (curricular books, if any) Main references (sources) Recommended books and references (scientific Scientific Scientific Scientific Scientific Recommended books Recommended books Scientific	318. 0 for for	Course Evaluthe the oretication the practication of the practicati	action: the evaluation me cal exam to extract the ar l exam and 35% for the t	thod is as nnual effo heoretica	follows: 15% rt from 40% l exam.	for the practical exa As for the final exan	n, it is 25%
Required textbooks (curricular books, if any) Main references (sources) Clinical Immunology Recommended books and references (scientific Scientific journals and research in the second seco	319. I	Learning and	nd Teaching Resource	es			
Recommended books and references (scientific journals and research in the	Kequired	1 textbooks	(curricular books, if any)				
journals, reports)	Recommended books and references (scientific journals, reports)			Clinical Immunology Scientific journals and research in the			
Electronic References, Websites Google scholar	Electron	ic Reference	es, Websites		Google scholar		

320	320. Course Name: Helminthes						
201							
321.	321. Course Code: Hel						
377	222 Comparison / Marcine Comparison						
322	. Selli	ester / Tear. Serifester	L				
323	. Desc	ription Preparation D	Date: 19/2/2024				
		<u></u>					
324	. Avai	lable Attendance For	ms: Lectures				
325	. Num	ber of Credit Hours (Total) / Numb	er of U	Units (Total)		
	90 hours/6	units					
326	. Cour	se administrator's nar	me (mention al	ll, if m	ore than one nan	ne)	
	Name: Haid	ler Hussein Obaid					
	Email: hai	der.alseady.dw@atu.	.edu.iq				
327	. Cour	se Objectives	1				
Course	Objectives			• Kno	owing the types of page	arasitic	
				• Knc	wledge of various	ose mem.	
				paras	itological analyzes t	o diagnose	
				the ty	pes of parasites.	.1 1	
				• . Ki cultiv	nowledge of all dise	eases through	
328	. Teac	hing and Learning St	rategies	cultiv	unon or sinces.		
Strategy	7	Theoretical le	cture method.				
		Practical lecture	are method.				
		 Method of dis 	scussion and di	ialogu	e		
				luiogu	•		
329.Co	329. Course Structure						
Week	Hours	Required Learning	Unit or subject	t	Learning	Evaluation	
1	2	In generally	introduction	of	Theoretical	Daily	
_	<u>ل</u>	introduction of	characteristic		lecture method	testing.	
		characteristic features	features of me	etazoa	Practical lecture	Quarterly	
		of metazoa			method	test.	
			96				

		1			
		Helminthes (cestoda ,trematoda and nematoda)	Helminthes (nematoda)	Method of discussion and dialogue	Discussing quarterly and annual research
2	2	Class Cestoda Taenia saginata Taenia solium Morphology ,life cycle ,pathogenicity, Lab. diagnosis	Class Cestoda	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
3	2	Hymenolepis nana Hymenolepis diminuta Morphology ,life cycle ,pathogenicity, Lab. diagnosis	Hymenolepis nana	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
4	2	Echinococcus granulosis Morphology ,life cycle ,pathogenicity, Lab. diagnosis	Echinococcus granulosis Morphology	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research
5	2	Class Trematoda In general life cycle of Schistosoma spp. Schistosoma haematobium Schistosoma mansoni Schistosoma japonicum Morphology ,life cycle ,pathogenicity, Lab. diagnosis	Class Trematoda	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
6	2	Short notes of (liver flukes)Fasciola hepatica (Lung flukes)Fasciola buski (intestinal flukes)flukes)Heterophyes heterophesLab. diagnosis	Short notes of (liver flukes)	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
7	2	Class Nematode Ascaris lumbricoides Trichuris trichura	Class Nematode	Theoretical lecture Practical lecture	Daily testing. Quarterly test.

· · · ·					
		Morphology ,life cycle ,pathogenicity, Lab. diagnosis		Method of discussion and dialogue	Discussing quarterly and annual research
8	2	Enterobius vermicularis Ancylostoma dudenale Necator americanus Morphology ,life cycle ,pathogenicity, Lab. diagnosis	Enterobius vermicularis	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
9	2	Larva migrans in human -cutenous larva migrans Ancylostoma caninum Schistosoma sp.	Larva migrans in human	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
10	2	subcutenous larva migrans (scrow worm)(Myiasis) -visceral larva migrans Toxocara spp. pathogenicity, Lab. diagnosis	subcutenous larva migrans (scrow worm)(Myiasis)	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
11	2	Filaria Wuchereria bancrofti Loa loa Morphology ,life cycle ,pathogenicity, Lab. diagnosis	Filaria Wuchereria bancrofti Loa loa Morphology	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
12	2	Short notes of class Annelida Hirudo medicinalis in human morphology and lab. Diagnosis. And from metazoan Class Arthropoda	Short notes of class Annelida	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research
13	2	Short notes of morphology and lab. diagnosis , some pathogenicity of 1- insect (Anopheline ,Sand fly ,Tse – tse fly	Short notes of morphology and lab.	Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly

		,Reduviid bug ,Culex ,				and annual	
		lice,Fleas, Cimex)				research	
		2-Arachnids					
		Mites, tick					
14	2	Review			Theoretical	Daily	
					lecture	testing.	
					Practical lecture	Quarterly	
					Method of	test.	
					discussion and	Discussing	
					dialogue	quarterly	
						and annual	
						research	
15	2	Examination (Final)			Theoretical	Daily	
					lecture	testing.	
					Practical lecture	Quarterly	
					Method of	test.	
					discussion and	Discussing	
					dialogue	quarterly	
						and annual	
						research	
330.0	Course Evalu	ation: the evaluation met	thod is as	follows: 15%	for the practical exa	am and 25%	
for	the theoretic	cal exam to extract the an	inual effo	rt from 40%.	As for the final exan	n, it is 25%	
for	the practica	l exam and 35% for the t	heoretical	l exam.			
331. I	331. Learning and Teaching Resources						
Required textbooks (curricular books, if any)							
Main references (sources)			Medical Parasitology				
Recommended books and references (scientific			medical helminthology protozoa				
journals	journals, reports)						
Electron	ic Reference	es, Websites		Google scholar			

332.	Course Name: Medical Mycology
333. Cou	rse Code: M.M
334.	Semester / Year: Semester
335.	Description Preparation Date: 19/2/2024
336.	Available Attendance Forms: Lectures
337.	Number of Credit Hours (Total) / Number of Units (Total)
45 h	ours/3 units
338.	Course administrator's name (mention all, if more than one name)
	99

Name: Puga Vava									
	Name: Ruqa Yaya								
220	Email: ruqayaya89@gmail.com								
339	339. Course Objectives								
Course	Objectives			• Knc cause • . Kr and h	by on medicinal must owing the types of di e. howing how to diagr ow to treat them.	nrooms. seases they nose diseases			
340	. Teac	hing and Learning St	rategies						
Strategy	7	Theoretical le	cture method						
		Practical lecture	ire method						
		• I factical feet		.1	_				
		• Niethod of dis	scussion and di	alogu	e				
341.Co	ourse Struc	ture							
Week	Hours	Required Learning Outcomes	Unit or subject name	,	Learning method	Evaluation method			
1	1	Introduction of medical Fungi	medical Fungi		Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research			
2	1	Structure, reproduction and classification.	Structure, reproduction classification.	and	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing. Quarterly test. Discussing quarterly and annual research			
3	1	Cultural characteristics, type of mycosis	Cultural characteristics		Theoretical lecture Practical lecture Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research			
4	1	General principle in treatment.	General princip treatment.	ole in	Theoretical lecture method Practical lecture method Method of discussion and dialogue	Daily testing Quarterly tes Discussing quarterly and annual research			
5	1	Actinomyces, Nocardia, Mycetoma	Actinomyces,		Theoretical lecture method Practical lecture method	Daily testing. Quarterly test.			

			1		
				Method of	Discussing
				discussion and	quarterly
				dialogue	and annual
					research
6	1	Dermatophytes	Dermatophytes	Theoretical	Daily
				lecture	testing.
				Practical lecture	Quarterly
				Method of	test.
				discussion and	Discussing
				dialogue	quarterly
					and annual
					research
7	1	Candidiasis	Candidiasis	Theoretical	Daily
				lecture	testing.
				Practical lecture	Quarterly
				Method of	test.
				discussion and	Discussing
				dialogue	quarterly
					and annual
					research
8	1	Cytococcsis	Cytococcsis	Theoretical	Daily
				lecture	testing.
				Practical lecture	Quarterly
				Method of	test.
				discussion and	Discussing
				dialogue	quarterly
					and annual
		~ .	~ .		research
9	1	Cryptococcusis	Cryptococcusis	Theoretical	Daily
				lecture	testing.
				Practical lecture	Quarterly
				Method of	test.
				discussion and	Discussing
				dialogue	quarterly
					and annual
10	1	Iliston la sur sa'	Ilister 1 '	Theoretical	Deiler
10	1	Histopiasmosis,	Histoplasmosis,	Ineoretical	Daily
		sporotrichosis		Dractical lacture	Cuarterly
				Method of	Quarterry
				discussion and	Discussing
				dialogue	ulartarly
				ulalogue	quarterry
					research
11	1	Micellanaus funci	Micellanous funci	Theoretical	Daily
	T	Asporgillogia muogr	witcenanaus tungi	lecture	testing
		,Asperginosis, mucor		Practical lecture	Ouarterly
				Method of	test
				discussion and	Discussing
				dialogue	quarterly
		1	l	Lutatogue	quarterry

						and annual
						research
12	1	Rhizopus &	Rhizop	us &	Theoretical	Daily
		penicillium	penicil	lium	lecture	testing.
					Practical lecture	Quarterly
					Method of	test.
					discussion and	Discussing
					dialogue	quarterly
						and annual
10						research
13	1	Anti-fungal agents,	Anti-fu	ingal agents	Theoretical	Daily
		antibiotic produced by			lecture	testing.
		fungi			Practical lecture	Quarterly
					Method of	test.
					discussion and	Discussing
					dialogue	quarterly
						and annual
11	1				Theoretical	Daily
14	1				lecture	testing
					Practical lecture	Quarterly
					Method of	test
					discussion and	Discussing
					dialogue	quarterly
						and annual
						research
15	1				Theoretical	Daily
	-				lecture	testing.
					Practical lecture	Quarterly
					Method of	test.
					discussion and	Discussing
					dialogue	quarterly
						and annual
						research
342. Course Evaluation: the evaluation method is as follows: 15% for the practical exam and 25%						
for the theoretical exam to extract the annual effort from 40%. As for the final exam, it is 25%						
for the practical exam and 35% for the theoretical exam.						
343. Learning and Teaching Resources						
Require	d textbooks ((curricular books, if any)				
Main references (sources)				Levinson, jawitz		
Recommended books and references (scientific				Scientific journals, periodicals and		
journals, reports)				research in the field of medical		
				mycology.		
Electronic References, Websites				Google scholar		