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

Academic Program and Course Description Guide

2024

Introduction:

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

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

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

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

Concepts and terminology:

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

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

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

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

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

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

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

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

Academic Program Description Form

University Name: Al-Furat Al-Awsat Technical

Faculty/Institute: Al-Mussyyib Technical Institute

Scientific Department: Medical Lap Techniques

Academic or Professional Program Name:

Final Certificate Name: Diploma in Medical Laboratory Technology.

Academic System: course

Description Preparation Date: 2023-2024

File Completion Date:

Signature:

Head of Department Name:

Date: Azhaar Moosa
23-4-2024

Signature:

Scientific Associate Name:
Dr. Mohammed Hadi Sabri

Date: 4-23-2024

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:
AWS Mahmoud Kreet

2024

Approval of the Dean

1. Program Vision

The Medical Laboratory Technology Department works through its specialized scientific studies to establish a technical system based on the requirements and needs of the community and the service facility related to the specialty, including developing technology and technology in the Medical Laboratory Technology Diploma.

2. Program Mission

Working to achieve the goals and requirements of the department through a suitable environment and providing all the material and human requirements necessary to achieve this and working to graduate classes capable of serving the community in providing scientific competence in the field of medical laboratory techniques through technical learning in accordance with internationally approved quality standards.

3. Program Objectives

The Department of Medical Laboratory Technology aims to prepare staff
A technician capable of working in the medical field and hospitals and knowing how to manage them.

4. Program Accreditation

Nothing

5. Other external influences

Nothing

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements				
Summer Training				
Other				

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

7. Program Description				
Year/Level	**Course Code**	**Course Name**	**Credit Hours**	
			theoretical	**practical**
First year/ first semester		Laboratory instruments	**4**	**4**
		Histology	**5**	**5**
		Laboratory technique	**4**	**4**
		Microbial preparation	**5**	**5**
		Analytical chemistry	**6**	**6**
		Fundamentals of nursing	**3**	**3**
		Computer	**2**	**2**
		Human Rights and Democracy	**2**	**2**
First year/ 2nd semester		Blood transfusion	**3**	**3**
		Biochemistry	**6**	**6**
		Molecular Biology	**4**	**4**
		Quality control	**4**	**4**
		Histological techniques	**5**	**5**
		Lap Safety	**2**	**2**
		English Language	**2**	**2**
Second year/ first semester		Protozoa	**6**	**6**
		Hematology	**6**	**6**
		microbiology	**6**	**6**
		Clinical Immunology	**6**	**6**
		Pathogenic Bacteria	**6**	**6**
		Virology	**3**	**3**
Second year/ 2nd semester		Hematology	**6**	**6**
		Pathogenic Bacteria	**6**	**6**
		Clinical Immunology	**6**	**6**
		Clinical biochemistry	**6**	**6**
		metazoa	**6**	**6**
		Medical Mycology		

8. Expected learning outcomes of the program	
Knowledge	
Learning Outcomes 1 The student should be able to identify all types of laboratory equipment The student will know how	Learning Outcomes Statement 1 The student should be familiar with how laboratory equipment works and how it can be used Conduct tests on it The student will know how to read laboratory results correctly

to manage the laboratory correctly and accurately.	and without error.
Skills	
Learning Outcomes 2 The student will be able to perform analyzes on various devices in a professional manner	Learning Outcomes Statement 2 The student must be able to perform a blood draw smoothly And with great skill.
Ethics	
Learning Outcomes 4 The student must be able to understand the importance of this section and the possibilities it offers Provided to the community and medical workers.	Learning Outcomes Statement 4 The student will be able to develop medical laboratories and access better methods for faster and easier results for patients.

9. Teaching and Learning Strategies
The modern education system adopts means of illustration such as illustrative pictures, and the use of scientific means, devices, methods, programs, and products for each laboratory procedure, and videos explaining how the laboratory procedure works, while providing theoretical lectures that include the scientific basis for each procedure in order to improve the teaching process.

10. Evaluation methods
Daily exam Monthly exam Intellectual questions Final exam

7. Faculty						
Faculty Members						
Academic Rank	**Specialization**		**Special Requirements/Skills (if applicable)**		**Number of the teaching staff**	
	General	**Special**			**Staff**	**Lecturer**

Professional Development
Mentoring new faculty members
Electronic and in-person workshops and courses are approved inside and outside the educational

institution.
Professional development of faculty members
Meetings, seminars and training courses are approved to prepare and prepare faculty members.

8. **Acceptance Criterion**
- Central Admission - for morning studies. - Direct application - for evening studies - according to grade and competition.

9. **The most important sources of information about the program**
A group of methodological books related to the academic subjects are relied upon.

10. Program Development Plan

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First year/ first semester		Laboratory instruments	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Histology	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Laboratory technique	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Microbial preparation	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Analytical chemistry	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Fundamentals of nursing	Basic	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Computer	Basic	✓	✓			✓	✓			✓	✓	✓	
		Human Rights and Democracy	Basic	✓	✓			✓	✓			✓	✓	✓	
First year/ 2nd semester		Blood transfusion	Basic	✓	✓	✓		✓	✓	✓		✓	✓		

		Biochemistry	**Basic**	✓	✓			✓	✓			✓	✓	✓	
		Molecular Biology	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Quality control	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓		
		Histological techniques	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓		
		Lap Safety	**Basic**	✓	✓			✓	✓			✓	✓		
		English Language	**Basic**	✓	✓			✓	✓			✓	✓		
Second year/ 1st semester		Protozoa	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Hematology	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		microbiology	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Clinical Immunology	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Pathogenic Bacteria	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		virology	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Professional conduct	**Basic**	✓	✓			✓	✓			✓	✓	✓	
Second year/		Hematology	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	

2nd semester		Pathogenic Bacteria	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Clinical Immunology	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Clinical biochemistry	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		metazoa	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	
		Medical Mycology	**Basic**	✓	✓	✓		✓	✓	✓		✓	✓	✓	

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

Course Description Form

1. Course Name: Histology

2. Course Code:

3. Semester / Year: 1st semester/ First year

4. Description Preparation Date: 20/11/2023

5. Available Attendance Forms: Attend a lecture

6. Number of Credit Hours (Total) / Number of Units (Total): Number of Units (5)

7. Course administrator's name (mention all, if more than one name)

Name: Dr. Ruqayah Ali Salman
Email: roqa@atu.edu.iq

8. Course Objectives

Course Objectives	To understand the histological structure and morphol of human tissue.

9. Teaching and Learning Strategies

Strategy	• curriculums and specialized books practical experiments • Latest research and periodicals • Educational videos

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Shape of cell	Attend a lecture	exam
2	2		Epithelial tissue –simple epi T.		
3			Epithelial tissue- Stratified epith. T.		
4	2		Connective tissue – Loose c t.T.	Attend a lecture	exam
5	2		Connective tissue –dense co	Attend a lecture	exam
6	2		Connective tissue –the bloo	Attend a lecture	Exam
7	2		Connective tissue –compact bone	Attend a lecture	exam
8	2		External feature of digestive	Attend a	exam

			system	lecture	
9	2		Urogenital system of male &female	Attend a lecture	exam
10	2		Liver	Attend a lecture	Exam
11	2		Spleen	Attend a lecture	exam
12	2		Lymph node	Attend a lecture	exam
13	2		Circulatory system (Artery)	Attend a lecture	exam
14	2		Circulatory system (vein)	Attend a lecture	exam
15	2		Final exam	Attend a lecture	Exam

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Not available
Main references (sources)	• BASIC HISTOLOGY (Jonquier Text and Atlas ATLAS OF HISTOLOGY (thirteen edition)
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name: Laboratory instruments / First stage/ theoretical
2. Course Code:
3. Semester / Year: 1st SEMSTER
4. Description Preparation Date: 25/2/2024
5. Available Attendance Forms: Attend a lecture
6. Number of Credit Hours (4) / Number of Units (4)
7. Course administrator's name (mention all, if more than one name)

Name: Safa Nihad Abed
Email safa.abd@atu.edu.iq

8. Course Objectives

Course Objectives	The student will be able to: - **- General objectives: -** Understand the principle of all instruments that used in the med laboratories.

9. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • The exams

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		**MICROSCOPES** Uses, main parts ,principle of work ,kinds, ty of condensers, operation, cleaning, service maintenance.	Attend a lecture	exam
2	2		**BALANCES** Uses ,types of balances ,main part ,principle operation ,operation ,service and maintenance	Attend lecture	exam
3	2		**PHOTOMETRY** Introduction, Light and wave length, B lamberts Law, types of photometers, main pa filters, prisms and diffraction gratings, princi of operation, operation and maintenance.	Attend lecture	exam
4	2		Introduction , Uses ,main parts , types atomizers ,principle of operation ,operation maintenance.	Attend lecture	exam
5	2		**ATOMIC ABSORPTION SPECTROPHOTOMETERY** Introduction ,uses , types, main parts , princi of operation ,operation and maintenance.	Attend lecture	exam
6	2		**CENTRIFUGES** Uses , types, main parts , principle of operation ,operation and maintenance.	Attend lecture	exam
7	2		Monthly exam	Attend lecture	exam
8	2		**AUTOCLAVES** Introduction ,uses , types, main parts , princi of operation , sterilization, operation maintenance	Attend lecture	exam
9	2		**PH METERS** Uses , types, main parts ,electrodes , principle operation ,operation and maintenance.	Attend lecture	exam

10	2		**MICROTOMES** Uses , types, main parts ,sharpeners , principle operation ,operation and maintenance.	Attend lecture		exam
11	2		**ELECTROPHORESIS** Uses , types, main parts , principle of operat ,operation and maintenance.	Attend lecture		exam
12	2		**HEATING INSTRUMENTS (WATER BATHS ,OVEN & INCUBATION)** Uses , types, main parts thermostats, principle operation ,operation and maintenance.	Attend lecture		exam
13	2		**WATER PURIFICATION (DISTILLATORS & DEAIONIZERS)** Distillator ,deionizers, uses, main parts operation and maintenance.	Attend lecture		exam
14	2		**AUTOANALYZERS** Introduction ,uses , types, main parts , princi of operation ,operation and maintenance.	Attend lecture		exam
15	2		**Review**	Attend lecture		exam

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, ly oral, monthly, or written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

12. Learning and Teaching Resources

Required textbooks (curricular books, if any	Nothing
Main references (sources)	MEDICAL INSTRUMENTATION Book
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

13. Course Name: Microbial preparation/1st /

14. Course Code:

15. Semester / Year: 1st SEMSTER

16. Description Preparation Date: 26 /2/2024

17. Available Attendance Forms: Attend a lecture

18. Number of Credit Hours (5) / Number of Units (5)

19. Course administrator's name (mention all, if more than one name)

Name: Hadeel A. Hassan
Email: h.alhayli@atu.edu.iq

20. Course Objectives

Course Objectives	prepare slides for histopathology and cytology A) In general:- Students can prepare permanent slides for different body organs B) Specifically student can do :- 1- Permanent stained tissue slides and body fluid smears. 2- Fix and preserve tissue specimen.

21. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • The exams

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation meth
1	2		Definition of some terminology that deals w histology , cytology,… etc.	Attend a lecture	exa n
2	2		Sample collection, biopsy, and autop	Attend a lecture	exa n
3	2		Steps of preparing tissue for stu fixation, fixatives.	Attend a lecture	exa n
4	2		Steps of preparing tissue for stu fixation, fixatives.	Attend lecture	exa n
5	2		Routine fixatives and special fixative	Attend lecture	exa n
6	2		Routine fixatives and special fixative	Attend a lecture	exa n
7	2		Washing, solution , time .	Attend a lecture	exa n
8	2		Dehydration , dehydrants .	Attend a lecture	exa n
9	2		Clearing ,clearing agents	Attend a lecture	exa n
10	2		Infiltration ,types of waxes .	Attend a lecture	exa n
11	2		blocking and trimming	Attend a lecture	exa n
12	2		Microtomes, Sectioning.	Attend a lecture	exa n
13	2		Review	Attend a lecture	exa n
14	2		Review	Attend a lecture	exa n
15	2		Final exam	Attend a lecture	exa n

23. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation daily monthly, or written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

24. Learning and Teaching Resources

Required textbooks (curricular books, if any	Nothing
Main references (sources)	A manual of Histological Techniques and The diagn stic

	Application By : John D. Banehroft , H.C. Cook
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name: Laboratory instruments / First stage/ theoretical

2. Course Code:

3. Semester / Year: 1st SEMSTER

4. Description Preparation Date: 2/2/2024

5. Available Attendance Forms: Attend a lecture

6. Number of Credit Hours (4) / Number of Units (4)

7. Course administrator's name (mention all, if more than one name)

Name: khetam lateaf hussain
Khetam.hussain@atu.edu.iq

8. Course Objectives

Course Objectives	The student will be able to: - **- General objectives: -** Understand the principle of all medical techniques that used in medical laboratories.

9. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • The exams

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation me
1	2		Introduction to medical lab technique	Attend a lecture	exam
2	2		Sample collection and transport	Attend a lecture	exam
3	2		Culturing of microorganism	Attend lecture	exam
4	2		GUE	Attend	exam

				lecture	
5	2		GSE	Attend lecture	exam
6	2		Seminal examination	Attend lecture	exam
7	2		Monthly exam	Attend lecture	exam
8	2		Agglutination technique	Attend lecture	exam
9	2		ELISA technique	Attend lecture	exam
10	2		RIA technique	Attend lecture	exam
11	2		PCR technique	Attend lecture	exam
12	2		Immunofloresence technique	Attend lecture	exam
13	2		review	Attend lecture	exam
14	2		review	Attend lecture	exam
15	2		**Monthly exame**	Attend lecture	exam

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily monthly, or written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Nothing
Main references (sources)	MEDICAL labrotory technique Book
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name: Name of the course: Human Rights and Democracy / Theoretical / First stag
Protozoa
2. Course Code:
3. Semester / Year:
first stage
4. Description Preparation Date: 20/3/2024
Medical laboratories
5. Available Attendance Forms:

6. Number of Credit Hours (Total) / Number of Units (Total)	
2hours, 2 credit	
7. Course administrator's name (mention all, if more than one name)	
Name : a.t Muneer Hadi Hussein Email: muneer.hussein.ims@atu.edu.iq	
8. Course Objectives	
Course Objectives	**1- classified protozoa** **2- know spp of protozoa** **3- study pathogenicity and life cycle protozoa** **4- diagnosis of protozoa**
9. Teaching and Learning Strategies	
Strategy	At the end of the academic year, the student should be able to recogn the principles and values of human rights, introduce them, ra generations to respect and adhere to them, and become familiar w public freedoms and what these freedoms are in their details.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Human rights/definition/goals Human rights in ancient civilizations, especially Mesopotamian civilization		Quiz discussion
2	2		Human rights in divine laws, with a focus on human rights in Islam		quiz discussion
3	2		Human rights in contemporary and modern history / international recognition of human rights since World War I and the League of Nations		Quiz discussion
4	2		Regional recognition of human rights (International Committee of the Red Cross / Amnesty International / Human Rights Watch / National Human Rights Organizations)		Quiz Discussion
5	2		Human rights in Iraqi constitutions between theory and reality		Quiz Discussion
6	2		The relationship between human rights and public freedoms: A - In the Universal Declaration of Human Rights B- In regional charters and national constitutions		Quiz discussion
7	2		Modern human rights: facts in development - the right to a clean environment - the right to solidarity -		Quiz Discussion

			the right to religion		
8	2		Exam		Exam.
9	2		Economic and cultural human rights and civil and political human rights		Quiz discussion
10	2		Guarantees of respect and protection of human rights at the national level / Guarantees in the constitution and laws / Guarantees in the principle of the rule of law / Guarantees in constitutional oversight / Guarantees in freedom of speech and public opinion / The role of non-governmental organizations in respecting and protecting human rights		Quiz Discussion
11	2		Democracy / its definition / types		Quiz Discussion
12	2		Concepts of democracy		Quiz discussion
13	2		Democracy in the Third World		Quiz Discussion
14	2		Concepts of freedoms / classification of basic public freedoms / intellectual freedoms / economic and social freedoms		Quiz Discussion
15	2		Final exam of second course		Exam.

11. Course Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc . quiz of practice and theory 10marks . first theory exam 10 marks Second theory exam 10 marks First and second practice exam 10 marks Final practice exam 25 marls Final theory exam 35

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Protozoa , metazoa and arthropoda
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name: Analytical chemistry
2. Course Code:
3. Semester / Year: 1st SEMSTER/ 1st year

4. Description Preparation Date: 22/2/2024

5. Available Attendance Forms: Attend a lecture

6. Number of Credit Hours (6) / Number of Units (6)

7. Course administrator's name (mention all, if more than one name)

Name: Baraa.B.Aldin
Email: baraa.ahmed.ims@atu.edu.iq

8. Course Objectives

Course Objectives	Study and understand the substance and solutions, how to deal w prepare them, and how to dilute them practically and using laws m

9. Teaching and Learning Strategies

Strategy	Study and understand the substance and solutions, how to deal with materials, how to prepare th them practically and using laws mathematically.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation m
1	2		Introduction to analytical chemistry and w methods are used chemically	Attend a lecture	exam
2	2		About organic chemistry, what are applications, what are isotopes and their types?	Attend lecture	exam
3	2		An overview of the types of standard methods an explanation of what is the error rate	Attend lecture	exam
4	2		Explain the chemical and physical states matter and how to deal with matter in its vari states	Attend lecture	exam
5	2		Explain the law of molarity and how to appl practically and mathematically	Attend lecture	exam
6	2		Explain the law of normality and how to apply it practically and mathematically	Attend lecture	exam
7	2		Explain the general dilution law and how prepare liquid and solid substances	Attend lecture	exam
8	2		Describe the process of titration practically mathematically, what is the purpose of titration and what types are used in the process titration	Attend lecture	exam
9	2		Definition of ph. of solutions, what is importance, and how to extract it practically	Attend lecture	exam

			using laws mathematically,		
10	2		Definition of acids, bases and how to prep them	Attend lecture	exam
11	2		Definition of strong acid and weak acid	Attend lecture	exam
12	2		Definition of a strong base and a weak base	Attend lecture	exam
13	2		What is weak acid and its salt and how to prep it	Attend lecture	exam
14	2		What is a weak base, its salt and how to prepar	Attend lecture	exam
15	2		Review	Attend lecture	exam

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

12. Learning and Teaching Resources

Required textbooks (curricular books, if any	Not available
Main references (sources)	Foundations of Analytical Chemistry / Douglas A. Scoog 201
Recommended books and references (scientific journals, reports...)	Foundations of Analytical Chemistry / Douglas A. Scoog 201
Electronic References, Websites	مبادئ الكيمياء التحليلية (researchgate.net).pdf

Course Description Form

25. Course Name: Fundamentals of nursing

26. Course Code:

27. Semester / Year: 1st SEMSTER

28. Description Preparation Date: 23 /2/2024

29. Available Attendance Forms: Attend a lecture

30. Number of Credit Hours (3) / Number of Units (3)

31. Course administrator's name (mention all, if more than one name)

Name: Aiyat Hazem
Email: ayiat.agel@atu.edu.iq

32. Course Objectives

Course Objectives	• Learn about the foundations of nursing. • Special: - Getting to know the basics of nursin , firs professional safety in the field of nursing, and m ethod patient while he is in medical laboratories

33. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • The exams

34. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation meth
1	2		Introduction to nursing	Attend a lecture	exa n
2	2		Medical examination	Attend lecture	exa n
3	2		Vital signs, temperature measurement	Attend lecture	exa n
4	2		Pulse, definition, factors that effecting pu measurement of pulse	Attend lecture	exa n
5	2		Respiration, definition, factors that effect respiration, measurement of respiration	Attend lecture	exa n
6	2		Blood pressure, definition, factor the effect blood pressure, hyper and hypotensi measurement of blood pressure	Attend lecture	exa n
7	2		Monthly exam	Attend lecture	exa n
8	2		Health care, definition, factors effecting hea care	Attend lecture	exa n
9	2		Factors that effects the health of worker laboratories, natural factors, infectious diseases	Attend lecture	exa n
10	2		Chemical factors- disease	Attend lecture	exa n
11	2		Psychological factors-diseases	Attend lecture	exa n
12	2		Biological factors- types-their effects on work in Lab.- diseases.	Attend lecture	exa n
13	2		First aid- definition, paramedic, fundamental first aid, wound, bleeding .	Attend lecture	exa n
14	2		Burns- types of fracture aid- artificial respiratio	Attend lecture	exa n
15	2		Final examination .	Attend lecture	exa n

35. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily

written exams, reports .... etc The theoretical monthly written exam is 20 marks The monthly written practical exam is 10 marks The theoretical final written exam is 35 marks The final practical written exam is 25 marks
36. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Nothing**
Main references (sources)	**Chemistry**
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form 2

37. Course Name: Blood transfution
38. Course Code:
39. Semester / Year: 2ND SEMSTER
40. Description Preparation Date: 23 /2/2024
41. Available Attendance Forms: Attend a lecture
42. Number of Credit Hours (3) / Number of Units (3)
43. Course administrator's name (mention all, if more than one name)
Name: Aiyat Hazem Email: ayiat.agel@atu.edu.iq
44. Course Objectives

Course Objectives	• How to handle and preserve samples and make histo them

45. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • The exams

46. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation metho**
1	2		Information of blood transfusion	Attend a lecture	exam
2	2		Blood components , blood collectior	Attend	exam

				lecture	
3	2		choosing the donor , physi examination ,time of collection	Attend lecture	exam
4	2		Blood group ,ABO system, Rh factor , Lewis system	Attend lecture	exam
5	2		Classification of blood typing	Attend lecture	exam
6	2		Direct and indirect coombs test blood	Attend lecture	exam
7	2		Process of cross matching ,reporting and record the result	Attend lecture	exam
8	2		Roles of blood transfusion ,blo disease	Attend lecture	exam
9	2		Pregnant care ,leukemia of infant .	Attend lecture	exam
10	2		Component of blood after stor ,anticoagulants	Attend lecture	exam
11	2		Examination for second term	Attend lecture	exam
12	2		Blood transfusion disadvantage	Attend lecture	exam
13	2		Separation of blood content ,meth of separation	Attend lecture	exam
14	2		Quality control, tools ,persons ,meth	Attend lecture	exam
15	2		Final examination .	Attend lecture	exam

47. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

48. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Nothing
Main references (sources)	A manual of Histological Techniques and The diag nostic By : John D. Banehroft , H.C. Cook
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

49. Course Name:
50. Course Code:
51. Semester / Year:
52. Description Preparation Date:

53. Available Attendance Forms:

54. Number of Credit Hours (Total) / Number of Units (Total)

55. Course administrator's name (mention all, if more than one name)

Name: Hadeer Amer Mohan
Email: hadeer. Mohan@atu.edu. iq

56. Course Objectives

Course Objectives	**1. Know what is meant by laboratory safety.....** **2. identify laboratory risks...** **3. idenitfy laboratory chemiy...**

57. Teaching and Learning Strategies

Strategy	Lectures The exam

58. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1and	2		Introduction To laboratory Safety	Attend Lecture	Exam
3	2		General lab. Safety roles	Attend Lecture	Exam
4and	2		Person protection eq uipments	Attend a lecture	exam
6and and8	2		Biological hazards	Attend lecture	exam
9-10	2		Types of biologi hazards		
11			Chemical hazards	Attend lecture	exam
12	2		Types of Chemical hazards	Attend lecture	exam
13	2		Review	Attend lecture	exam
14-1			Final exam		exam

59. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily

preparation, daily oral, monthly, or written exams, reports .... etc	
60. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

61. Course Name: Molecular Biology
62. Course Code:
63. Semester /First Year: second semester
64. Description Preparation Date:22/2/2024
65. Available Attendance Forms:
66. Number of Credit Hours (4) / Number of Units (4)
67. Course administrator's name (mention all, if more than one name)
Name: Dr. Ruqayah Ali Salman Email: roqa@atu.edu.iq
68. Course Objectives

Course Objectives	Students will be able to • understand the molecular process of intact cells • signalling and the molecular structures of the cell.
69. Teaching and Learning Strategies	
Strategy	• curriculums and specialized books practical experiments • Latest research and periodicals • Educational videos

70. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2		Introduction to molecular biology	Attend lecture	exam

2	2		Cell cycle	Attend lecture	exam
3	2		DNA and RNA structure	Attend lecture	exam
4	2		DNA replication	Attend lecture	exam
5	2		DNA transcription	Attend lecture	exam
6-7	2		**Translation and protein synthesis**	Attend lecture	exam
8	2		Gene expression and regulation	Attend lecture	exam
9-10	2		Inhibitors of translation and transcription	Attend lecture	exam
11	2		DNA repair system	Attend lecture	exam
12	2		Mutation and chromosomal aberrations	Attend lecture	exam
13	2		Chemical and physical agents that cause mutation	Attend lecture	exam
14	2		Recombinant DNA technology (cDNA technique)	Attend lecture	exam
15	2		Cloning and application (briefly)	Attend lecture	exam

71. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

72. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Not available
Main references (sources)	• Molecular Biology (Third edition) David P. Clark, 2018

Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name: BIOCHEMSTERY /1ST /

2. Course Code:

3. Semester / Year: 2ND SEMSTER

4. Description Preparation Date: 22/2/2024

5. Available Attendance Forms: Attend a lecture

6. Number of Credit Hours (6) / Number of Units (6)

7. Course administrator's name (mention all, if more than one name)

Name: Baraa.B.Aldin
Email: baraa.ahmed.ims@atu.edu.iq

8. Course Objectives

Course Objectives	Know the functioning of cells, the functions and im ortan enzymes Knowledge of metabolism

9. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • The exams

10. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2		Definition of biochemistry and what are the components of The cell and its importance	Attend a lecture	exam
2	2		Carbohydrates, their classification ar types and their chemical composition	Attend lecture	exam
3	2		Fats, their characteristics and types and chemical composition	Attend lecture	exam
4	2		Essential fats and derived fats	Attend lecture	exam
5	2		Proteins and their properties	Attend lecture	exam
6	2		Peptide Bond in Amino Acids	Attend lecture	exam
7	2			Attend	exam

			Amino acids, their types and characteristics of each type	lecture	
8	2		Enzymes and their classification	Attend lecture	exam
9	2		Know some of the disorders that aff Glands and affect the work of enzyme	Attend lecture	exam
10	2		Types of glands, their location and function of the enzyme action	Attend lecture	exam
11	2		Endocrine diseases	Attend lecture	exam
12	2		Vitamins, their properties importance	Attend lecture	exam
13	2		Sources of vitamins	Attend lecture	exam
14	2		Laboratory tests for some vitamins	Attend lecture	exam
15	2		Review	Attend lecture	exam

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

12. Learning and Teaching Resources

Required textbooks (curricular books, if any	Nothing
Main references (sources)	BIOCHEMSTRY
Recommended books and references (scientific journals, reports...)	HARPERS ILLUSTRATED BIOCHEMSTERY
Electronic References, Websites	Online Medical Learning - HMX | Harvard Medical Schoo

Course Description Form

1. Course Name: Laboratory instruments / First stage/ **theoretical**
2. Course Code:
3. Semester / Year: 2nd SEMSTER
4. Description Preparation Date: 2/4/2024
5. Available Attendance Forms: Attend a lecture
6. Number of Credit Hours (4) / Number of Units (4)

7. Course administrator's name (mention all, if more than one name)

Name: khetam lateaf hussain
Khetam.hussain@atu.edu.iq

8. Course Objectives

Course Objectives	The student will be able to qualitation of laboratory result .

9. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • The exams

10. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation m**
1	2		Introduction to quality control	Attend a lecture	exam
2	2		Medical revalance of QA	Attend lecture	exam
3 , 4,5	2		Balancing error detection	Attend lecture	exam
6,7	2		Quality control material	Attend lecture	exam
8	2		QA for quantitative result	Attend lecture	exam
9	2		QA for qualitative result	Attend lecture	exam
10	2		QA for semi-quantitative result	Attend lecture	exam
11	2		Troubleshoot based on QA result	Attend lecture	exam
12,13,14	2		review	Attend lecture	exam
15	2		**Monthly exam**	Attend lecture	exam

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Nothing
Main references (sources)	MEDICAL labrotory technique Book
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

73. Course Name: Histological techniques/1st /

74. Course Code:

75. Semester / Year: 2ND SEMSTER

76. Description Preparation Date: 23 /2/2024

77. Available Attendance Forms: Attend a lecture

78. Number of Credit Hours (5) / Number of Units (5)

79. Course administrator's name (mention all, if more than one name)

Name: Hadeel A. Hassan
Email: h.alhayli@atu.edu.iq

80. Course Objectives

Course Objectives	• How to handle and preserve samples and make histo them

81. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • The exams

82. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Mounting , Adhesives	Attend a lecture	exam
2	2		Staining , classification of stain	Attend lecture	exam
3	2		Staining , classification of stain	Attend lecture	exam
4	2		Staining section	Attend lecture	exam
5	2		Staining section	Attend lecture	exam
6	2		Methods of staining .	Attend lecture	exam
7	2		Types of stains	Attend lecture	exam

8	2		preparation of stain and oxidati of some stains	Attend lecture	exam
9	2		Stains solvents ,factors affectin staining , storage of stains , hov to choose stain .	Attend lecture	exam
10	2		Decalcification , bone tissue	Attend lecture	exam
11	2		Examination for second term	Attend lecture	exam
12	2		Tissue slide	Attend lecture	exam
13	2		Freezing	Attend lecture	exam
14	2		microtome	Attend lecture	exam
15	2		Final examination .	Attend lecture	exam

83. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

84. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Nothing
Main references (sources)	A manual of Histological Techniques and The diagn stic A By : John D. Banehroft , H.C. Cook
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

85. Course Name:

Lap Safety

86. Course Code:

87. Semester / Year:

2nd Semester/ 1st year

88. Description Preparation Date:

89. Available Attendance Forms:

Attend a lecture

90. Number of Credit Hours (Total) / Number of Units (Total)

91. Course administrator's name (mention all, if more than one name)

Name:Hadeer Amer Mohan
Email: hadeer. Mohan@atu.edu. iq

92. Course Objectives

Course Objectives	**1. Know what is meant by laboratory safety.....** **2. identify laboratory risks...** **3. idenitfy laboratory chemiy...**

93. Teaching and Learning Strategies

Strategy	Lectures The exam

94. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1and2	2		Introduction To laboratory Safety	Attend a Lecture	Exam
3	2		General lab. Safety roles	Attend a Lecture	Exam
4and5	2		Person protection equipment's	Attend a lecture	exam
6and7 and8	2		Biological hazards	Attend a lecture	exam
9-10	2		Types of biolo-gical hazards		
11			Chemical hazards	Attend a lecture	exam
12	2		Types of Chemical hazards	Attend a lecture	exam
13	2		Review	Attend a lecture	exam
14-15			Final exam		exam

95. Course Evaluation

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

96. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
English Language/ Second semester
2. Course Code:
3. Semester / Year:
Second semester
4. Description Preparation Date:
23- 2-2024
5. Available Attendance Forms:
Attend a lecture
6. Number of Credit Hours (Total) / Number of Units (Total)/
(2)/ (2)
7. Course administrator's name (mention all, if more than one name)
Name: Afrah Mohammed Muslim Email: afrah.al-sowaidi.ims@atu.edu.iq

8. Course Objectives	
Course Objectives	1. Improving the English language for students and teachers to the point where they can use it as a popular language of communication, research, and study. 2. Improving the educational level to deal with the translation of scientific texts properly.

9. Teaching and Learning Strategies	
Strategy	1. Listening + Speaking, 2. Writing + reading. Each level is divided into four educational stages, with specific procedu objectives to support what has been previously learned while adding everything new.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		1 Hello! p6 am/are/is my/your What's your name? p6 How are you? p8	attend a lecture	exam
2	2		2 Your world p12 am/are/is he/she/they – his/her Questions	attend a lecture	exam
3	2		3 Personal information am/are/is Negatives, questions, a short answers	attend a lecture	exam
4	2		4 Family and friends Possessive adjectives, Possessive	attend a lecture	exam

5	2		5 It's my life! Present Simple I/you/they	attend a lecture	exam
6	2		6 Every day The time. p40 resent Simple he/she/it uestions and negatives	attend a lecture	exam
7	2		7 Places I like Object pronouns this/that Questions and answers	attend a lecture	exam
8	2		8 Where I live There is/are, any Prepositions	attend a lecture	exam
9	2		9 Happy birthday! Past Simple - irregular verbs	attend a lecture	exam
10	2		10 We had a good time! Past Simple - regular and irregular uestions and negatives Short answers	attend a lecture	exam
11	2		11 We can do it! can/can't Requests and offers	attend a lecture	exam
12	2		12 Thank you very much! want, like, and wo like	attend a lecture	exam
13	2		13 Here and now Present Simple and Present Continuous	attend a lecture	exam
14	2		14 It's time to go! uestion words revision Present Continuous for future	attend a lecture	exam
15	2		Final exam	attend a lecture	exam

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	New Headway Beginner student's Book
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Protozoa
2. Course Code:
3. Semester / Year:
first semester
4. Description Preparation Date: 24/2/2024
Medical laboratories
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total)
6 hours, 6 credit
7. Course administrator's name (mention all, if more than one name)
Name : dr. jawad kadhim ali Email : jawad.kadhim@atu.edu.iq
8. Course Objectives

Course Objectives	**1- classifiedprotozoa** **2- know spp of protozoa** **3- study pathogenicity and life cycle protozoa** **4- diagnosis of protozoa**

9. Teaching and Learning Strategies	
Strategy	Lectures The exam

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Define of parasite and parasitology. types of parasites and hosts. classification of parasites(protozoa and metazoan)		Quiz discussion
2	2		Introduction in characteristic feature of protozoa and classification: rhizopoda, mastigophora, cliophora, telophora.		quiz discussion
3	2		Class: Rhizopoda. pathogenic. amoeba. Entamoaba histolytica. morphology. life cycle. pathogenicity.l ab diagnosis.		Quiz discussion
4	2		Few of morphology,pathogenicity,diagnosis of Entamoaba gingivalis,Acanthmoaba,Neagleria.		Quiz Discussion
5	2		Non.pathogenic amoeba.different		Quiz

			between Entamoaba coli and E.histolytica,and morphology,lab. Diagnosis of Iodamoaba butschlii,Endolimax nana,Dientamoaba fragilis.		Discussion
6	2		Classification of flagellates Giardia lamblia.chilomastix mesnili.Trichomonas hominis,morphology,life cycle,pathogenicity and lab.diagnosis .Trichmonas vaginalis.Trichomonas tenax,morphology,pathogenicity,lab. diagnosis		Quiz discussion
7	2		Lieshmania donovani, Lieshmania tropica, Lieshmania brazeliensis, morphology,life cycle,pathogenicity,lab. Diagnosis.Trypanosoma cruzi, Trypanosoma brucei,morphology,life cycle,pathogenicity,lab. Diagnosis.sample of Tse tse flyand Reduviid bug.		Quiz Discussion
8	2		First monthly exam.		Exam.
9	2		Class Cliophora; Balantidium coli,morphology,life cycle,pathogenicity,lab. Diagnosis.		Quiz discussion
10	2		classSporozoa.introduction of characteristic feature of Sporozoa, life cycle of Plasmodium spp.in man and insects.Plasmodium vivax ,Plasmodium ovale,morphology,lab. diagnosis		Quiz Discussion
11	2		Plasmodium malarae, Plasmodium falciparum.pathogenicity,lab. Diagnosis,the defferences in lab.diagnosis in Plasmodium spp.		Quiz Discussion
12	2		Isospora belli ,Toxoplasma gondii, morphology,life cycle,pathogenicity,lab. diagnosis		Quiz discussion
13	2		Cryptosoridium spp.morphology,life cycle,pathogenicity,lab. diagnosis		Quiz Discussion
14	2		Second monthly exam		Exam.
15	2		Final exam of second course		Exam.

11. Course Evaluation

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

. quiz of practice and theory 10marks

. first theory exam 10 marks

Second theory exam 10 marks First and second practice exam 10 marks Final practice exam 25 marls Final theory exam 35	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Protozoa , metazoa and arthropoda
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name: Hematology 1	
2. Course Code:	
3. Semester / Year: first semester	
4. Description Preparation Date: 22/2/2024	
5. Available Attendance Forms: Attend a lecture	
6. Number of Credit Hours (6) / Number of Units (6)	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Hisham Atwan Swadi Email: animalproduction547@atu.edu.iq	
8. Course Objectives	
Course Objectives	• Knowing medical system • and tests that occur in laboratory • and diagnosis the disease case
9. Teaching and Learning Strategies	
Strategy	• Lectures • Practical experiences • the exams

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction importance hematology. Study the blood contains.	Attend a lecture	exam
2	2		The haemoto poiesis in fetus, children and adult.	Attend a lectu	exam
3	2		The normal red blood	Attend	exam

			cells, importance, Structure, erythropoiesis and Function.	lecture	
4	2		Polycythemia, causes, Clinical Signs and Laboratory diagnosis.	Attend lecture	exam
5	2		Study the red cell morphology in health and disease. Abnormality R.B.C in size.	Attend lecture	exam
6	2		Abnormality of R.B.C in shape.	Attend lecture	exam
7	2		Abnormality of R.B.C in colour.	Attend lecture	exam
8	2		The normal Hb. Of the blood, contain and importance	Attend lecture	exam
9	2		Study the types of normal Hb. Types.	Attend lecture	exam
10	2		Common Hb. Variant.	Attend lecture	exam
11	2		Anemia. Definition, classification and types.	Attend lecture	exam
12	2		Anemia. Causes .clinical signs and laboratory Finding	Attend lecture	exam
13	2		Megaloblastic anemia and Pernicious anemia	Attend lecture	exam
14	2		Aplastic anemia and hemolytic anemia.	Attend lecture	exam
15	2		Sickle Cell an. And acquired and autoimmune hemolytic anemia.	Attend lecture	exam

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Nothing
Main references (sources)	Hematology
Recommended books and references (scientific journals, reports...)	Color atlas of hematology - Practical Microscopic and Clinical Diagnosis
Electronic References, Websites	

Course Description Form

13. Course Name:

microbiology /1st SEMSTER

14. Course Code:

15. Semester / Year:

2nd year / 1ND SEMSTER

16. Description Preparation Date: 24/3/2024

17. Available Attendance Forms: Attend a lecture

18. Number of Credit Hours (6) / Number of Units (6)

19. Course administrator's name (mention all, if more than one name)

Name: heba khalaf
Email: heba.khalaf.ism@atu.edu.iq

20. Course Objectives

Course Objectives	• Introduction to microbiology , **Important Figu** **Microbiology Science** • Classification of microbiology • Scientific nomenclature of bacteria • Bacterial structure, growth, toxin, pathogenesis , • Antibacterial agent

21. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • The exams

22. 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		Attend a lecture	exam
2	2	classes of pathogenic microorganisms Viruses, bacteria, fungi, parasites		Attend lecture	exam
3	2	Classification and Scientific nomenclature of the bacteria. Normal Flora		Attend lecture	exam
4	2	Bacterial Structure		Attend lecture	exam
5	2	Bacterial division and growth		Attend lecture	exam
6	2	Bacterial Genetics, DNA transfer betw		Attend	exam

		bacteria.		lecture	
7	2	Pathogenicity of bacteria		Attend lecture	exam
8	2	TOXIGENESIS (bacterial toxin).		Attend lecture	exam
9	2	Classes of antibacterial agents		Attend lecture	exam
10	2	General characteristic and classification of virus		Attend lecture	exam
11	2	Viral genetics, a mutation, instruction between viruses, the role of genetic variation in evolution of viruses.		Attend lecture	exam
12	2	Pathogenicity of viruses		Attend lecture	exam
13	2	Classes of antiviral agents		Attend lecture	exam
14	2	Characteristic and classification of medica fungi		Attend lecture	exam
15	2	Morphology and structure of fungi, Classes of antifungal agents		Attend lecture	exam

23. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

24. Learning and Teaching Resources

Required textbooks (curricular books, if any	Nothing
Main references (sources)	Microbiology
Recommended books and references (scientific journals, reports...)	Immunology and microbiology
Electronic References, Websites	

Course Description Form

1. Course Name: Clinical Immunology
2. Course Code:
3. Semester / Year: 1st SEMSTER/ 2nd year
4. Description Preparation Date: 22/2/2024
5. Available Attendance Forms: Attend a lecture

6. Number of Credit Hours (6) / Number of Units (6)

7. Course administrator's name (mention all, if more than one name)

Name: Dr. Azhaar Mousa Jaffar
Email: azhaar.jaffar@atu.edu.iq

8. Course Objectives

Course Objectives	Studying the basics of immunology, how the pathogen and resistant to it enter the body, and the types of immune response.

9. Teaching and Learning Strategies

Strategy	• curriculums and specialized books practical experiments • Latest research and periodicals • Educational videos

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation m
1	2		Immunology: definition and classification of the sections of immunity, natural and acquired immunity, natural immune factors and defenses	Attend a lecture	exam
2	2		The immune system, lymphoid tissues and cells, their origin, recipients and stages of maturation, primary and secondary lymphoid organs.	Attend lecture	exam
3	2		Phagocytosis: Antigen presenting cells	Attend lecture	exam
4	2		Antigen and antigenic determination	Attend lecture	exam
5	2		Antibodies: Definition of the opposite, composition, types, properties, manufacturing and editing	Attend lecture	exam
6	2		Immune response: primary and secondary, their characteristics and differences, regulation of the immune response	Attend lecture	exam
7	2		Major histocompatibility complex (MHC) Its definition, types, role in antigen presentation:	Attend lecture	exam
8	2		Complements: Definition of complement, activation, methods of activation, inhibitors, diseases associated with complement deficiency	Attend lecture	exam
9	2		Cytokines	Attend lecture	exam
10	2		Immunity against germs and toxins How the immune system works in defense against germs	Attend lecture	exam

11	2		Immunity against viruses, immunity against parasites Immunity against fungi	Attend lecture	exam
12	2		Definition of tumor, antigens related to the tumor, their types, their relationship to various tumors, means of evading the body's immunity.	Attend lecture	exam
13	2		Hypersensitivity: Its definition, different patterns, and diseases resulting from it	Attend lecture	exam
14	2		Natural and acquired immune deficiency: Types and theories	Attend lecture	exam
15	2		Vaccination, types of vaccines	Attend lecture	exam

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Not available
Main references (sources)	How The Immune System Works (5th ed)
Recommended books and references (scientific journals, reports...)	Cellular and Molecular Immunology, 8ed
Electronic References, Websites	(YouTube channel) https://youtu.be/WzMH5-51yfM?si=t91Qc0EoIO4DvKTj

Course Description Form

25. Course Name: Pathogenic Bacteria /2nd /

26. Course Code:

27. Semester / Year: 1st SEMSTER

28. Description Preparation Date: 22/2/2024

29. Available Attendance Forms: Attend a lecture

30. Number of Credit Hours (6) / Number of Units (6)

31. Course administrator's name (mention all, if more than one name)

Name: Asmaa Abd Ali Abd Alameer
Email asmaa. alrifai.ims @atu.edu.iq

32. Course Objectives

Course Objectives	• Students will learn basic information of clinical chem

	to • Develop their skills in clinical chemistry.

33. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • The exams

34. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation
1	2		**Introduction to clinical chemistry** **Disciplinary of clinical chemistry** **Introduction of metabolism, types of metabolism** **(anabolism and catabolism)** **collection and handing of blood samples , anticoagulant ,** **urine compassion ,urine collection methods , urine preservative**	Attend a lecture	exa
2	2		**Acid-base balance**	Attend lecture	exa
3	2		**Electrolytes (Na+, K+, Cl-, Ca2+, Mg, ect….)**	Attend lecture	exa
4	2		**Diseases related to increase and decrease of electrolytes**	Attend lecture	exa
5	2		**Trace element [Cu+2, Ceruloplasmin, Zn, Mn], Disease appeared in abnormal metabolism of these metals.**	Attend lecture	exa
6	2		**Glucose digestion and absorption** **(glucose metabolism)** **Glucose uptake by cells**	Attend lecture	exa
7	2		**Glycolysis and hormones that regulate glycolysis**	Attend lecture	exa
8	2		Monthly exam	Attend lecture	exa
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**	Attend lecture	exa
10	2		**Glycogen metabolism**	Attend	exa

			1- Regulation of synthesis **2- disorders of glycogen metabolism**	lecture	
11	2		**Gluconeogenesis** **Precursors (such as Pyruvate, lactate, alanine, ect…)**	Attend lecture	exa
12	2		**Diabetes Mellitus**	Attend lecture	exa
13	2		(**blood glucose and regulation of blood glucose (role insulin and glucagon hormones in glucose regulation)**	Attend lecture	exa
14	2		Hyperglycemia (types of DM) Hypoglycemia	Attend lecture	exa
15	2		**Review for final exam**	Attend lecture	

35. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

36. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Nothing
Main references (sources)	Lippincott's Biochemistry book
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name: Name of the course:
Virology / 2nd year / 1st cource
2. Course Code:
3. Semester / Year:
4. Description Preparation Date: 20/3/2024

5. Available Attendance Forms:

Attend a lecture

6. Number of Credit Hours (Total) / Number of Units (Total)

(3)/ (3)

7. Course administrator's name (mention all, if more than one name)

Name: Ahmed Sadiq

8. Course Objectives

Course Objectives	

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2		Introduction, General properties of virus, structure, classification of DNA & RNA viruses.	Attend a lecture	Quiz discussion
2	2		Replication of DNA and RNA virus	Attend a lecture	quiz discussion
3	2		Virus isolation & cultivation.	Attend a lecture	Quiz discussion
4	2		Chemotherapy, antiviral agent & vaccines.	Attend a lecture	Quiz Discussion
5	2		Influenza viruses	Attend a lecture	Quiz Discussion
6	2		Paramyxo & Robella viruses.	Attend a lecture	Quiz discussion
7	2		Enteric viruses, Rhinovirus group.	Attend a lecture	Quiz Discussion
8	2		Pathogenesis of viruses and Genetic of viruses	Attend a lecture	Exam.
9	2		Herpes viruses	Attend a	Quiz discussion

				lecture	
10	2		Oncogenic viruses	Attend a lecture	Quiz Discussion
11	2		Hepatitis viruses	Attend a lecture	Quiz Discussion
12	2		Rubies & other neurotropic viruses	Attend a lecture	Quiz discussion
13	2		Arbo viruses & viral haemorrhagic viruses	Attend a lecture	Quiz Discussion
14	2		Adeno, pox & parvo viruses	Attend a lecture	Quiz Discussion
15	2		Retro & Adis	Attend a lecture	Exam.

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc
. quiz of practice and theory 10marks
. first theory exam 10 marks
Second theory exam 10 marks
First and second practice exam 10 marks
Final practice exam 25 marls
Final theory exam 35

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

13. Course Name: Hematology 2

14. Course Code:

15. Semester / Year: second semester

16. Description Preparation Date: 22/2/2024

17. Available Attendance Forms: Attend a lecture

18. Number of Credit Hours (6) / Number of Units (6)

19. Course administrator's name (mention all, if more than one name)

Name: Dr. Hisham Atwan Swadi
Email: animalproduction547@atu.edu.iq

20. Course Objectives

Course Objectives	• Knowing medical system • and tests that occur in laboratory • and diagnosis the disease case

21. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • the exams

22. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2		Haemostasis , definition and type .The role of blood Vessels and Platelet in Haemostasis.	Attend a lecture	exam
2	2		Coagulation factors, name and figures.	Attend a lecture	exam
3	2		Coagulative Processes	Attend a lecture	exam
4	2		Haemostasis disorder types. Haemostasis due to blood vessels disorder.	Attend a lecture	exam
5	2		Haemostasis due to Coagulative disorder.	Attend lecture	exam
6	2		Haemostasis due to blood platel disorder.	Attend lecture	exam
7	2		Haemostasis due to Coagulative disorder.	Attend lecture	exam
8	2		The White blood Cells, types.	Attend lecture	exam
9	2		The maturation of W.B.C.	Attend lecture	exam
10	2		The function of W.B.C.	Attend lecture	exam
11	2		Leukocytosis	Attend lecture	exam
12	2		Leukopenia	Attend lecture	exam
13	2		Leukemia, definition and	Attend	exam

			classification.	lecture	
14	2		Chronic and acute myeloid. L.	Attend lecture	exam
15	2		Chronic and acute Monocytic .L.	Attend lecture	exam

23. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

24. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Nothing
Main references (sources)	Hematology
Recommended books and references (scientific journals, reports...)	Color atlas of hematology - Practical Microscopic and Clinical Diagnosis
Electronic References, Websites	

Course Description Form

13. Course Name: Pathogenic Bacteria /2nd /

14. Course Code:

15. Semester / Year: 2ND SEMSTER

16. Description Preparation Date: 22/2/2024

17. Available Attendance Forms: Attend a lecture

18. Number of Credit Hours (6) / Number of Units (6)

19. Course administrator's name (mention all, if more than one name)

Name: Hadeel A. Hassan
Email: h.alhayli@atu.edu.iq

20. Course Objectives

Course Objectives	• Distinguish between pathogenic bacterial species • Biochemical test for each species • General characters , toxin production , enzyme , mmu • Sensitivity test.

21. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • The exams

22. 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.	Attend a lecture	exam
2	2		Genus Streptococcus General characters. Bio chemical test, Antigenic characters , M protein Streptococcus group A, diseas toxin, and immunity.	Attend lecture	exam
3	2		Streptococcus group B, C, D. Biochemical reaction, immunity, diseases. Streptococcus pneumonia and Streptococc variance disease, antigenic structure.	Attend lecture	exam
4	2		Gram positive bacilli – Corynebacterium diphtheria. Shape of bacteria, virulence, toxin, immunity, shick test. Antitoxin, skin test.	Attend lecture	exam
5	2		Genus Mycobacterium , general characters, Classification of bacteria , growth , antigenic structure , Disease, immunity.	Attend lecture	exam
6	2		Genus Bacillus, Bacillus anthraces. General characters, biochemical reaction, antigenic structure, toxin, immunity.	Attend lecture	exam
7	2		Anaerobic bacteria – Clostridium, general characters. Clostridium perifringeus , general characters . Antigen structure, biochemical reaction, virulence, toxin. Clostridium tetani , disease immunity, antigenic structure	Attend lecture	exam
8	2		Genus Neisseria, general characters, biochemical reaction. Neisseria gonorrhea, antigenic structure, virulence. Neisseria meningitides, immunity, sensitiv test. Antigenic structure , virulence immunity	Attend lecture	exam
9	2		Genus Haemophilus , general characters , growth factors ,	Attend lecture	exam

			Virulence, immunity. Genus Bordetella, general charact disease		
10	2		Family Enterobacteriaceae , General characters , classification , biochemical reaction , Antigenic characters, sugar fermentation, sensitivity test. Genus Escherichia coli, diseas virulence, Immunity.	Attend lecture	exam
11	2		Family Enterobacteriaceae , General characters , classification , biochemical reaction , Antigenic characters, sugar fermentation, sensitivity test. Genus Klebsiella, diseases, viruler Immunity.	Attend lecture	exam
12	2		Genus Vibirio, history of disease, general characters, Antigenic structure, virulence, immunity, treatment. Classical Vibirio EL-TOR biotype. Vibirio parahaemical. Campylobacter jejuni.	Attend lecture	exam
13	2			Attend lecture	exam
14	2		Francisella , general characters , transmition diseases , Virulence, syphilis, VDRL. Nocardia , general characters , stin-direct smear . Mycoplasma, shape, viruler Lab.dignosis	Attend lecture	exam
15	2		Chlamydia , general characters , shape , biochemical test , Virulence, immunity.	Attend lecture	exam

23. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

24. Learning and Teaching Resources

Required textbooks (curricular books, if any	Nothing
Main references (sources)	Microbiology
Recommended books and references (scientific journals, reports...)	

Electronic References, Websites	

Course Description Form

25. Course Name: Pathogenic Bacteria /2nd /

26. Course Code:

27. Semester / Year: 2ND SEMSTER

28. Description Preparation Date: 22/2/2024

29. Available Attendance Forms: Attend a lecture

30. Number of Credit Hours (6) / Number of Units (6)

31. Course administrator's name (mention all, if more than one name)

Name: Asmaa Abd Ali Abd Alameer
Email asmaa. alrifai.ims @atu.edu.iq

32. Course Objectives

Course Objectives	• **• Identify proteins and fats and everything related including digestion and metabolic processes that occ** • **• Conduct all chemical tests and examinations for p and liver functions, and identify hormones and enzy**

33. Teaching and Learning Strategies

Strategy	• Lectures • Practical experiences • The exams

34. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation
1	2		• Learn about protein digestion and metabolism a kidney function • - Plasma protein (its components),	Attend a lecture	exam
2	2		- Amino acid metabolism, - The fate of ammonia,	Attend lecture	exam
3	2		Urea cycle, urea metabolism, and kid function tests	Attend lecture	exam
4	2		Fat metabolism 1- Oxidation of fatty acids	Attend lecture	exam
5	2		-Ketone bodies Lipid profile and lipid profile disorder (cholester Triglycerides and lipoproteins)	Attend lecture	exam
6	2		Purine and pyrimidine disorders	Attend	exam

			Uric acid metabolism (synthesis a hyperuricemia)	lecture		
7	2		Monthly exam	Attend lecture		exam
8	2		Introduction to Enzyme (Definition of Enzymes) Creatine kinase CK (isoenzymes) Lactate dehydrogenase (LDH isoenzymes	Attend lecture		exam
9	2		Liver function tests Bilirubin metabolism Jaundice (adult and neonatal jaundice) Hepatitis and liver function tests	Attend lecture		exam
10	2		Jaundice (adult and neonatal jaundice) Hepatitis and liver function tests	Attend lecture		exam
11	2		Tumor markers	Attend lecture		exam
12	2		Hormones 1- Thyroid hormones	Attend lecture		exam
13	2		(Thyroid function tests, thyroid gland hormones)	Attend lecture		exam
14	2		Fertility hormones (testosterone, luteiniz hormone).	Attend lecture		exam
15	2		Prolactin, follicle-stimulating hormone)	Attend lecture		exam

35. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks
The final practical written exam is 25 marks

36. Learning and Teaching Resources

Required textbooks (curricular books, if any	Nothing
Main references (sources)	Lippincott's Biochemistry book
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name: Clinical Immunology
2. Course Code:
3. Semester / Year: 2ND SEMSTER/ 2nd year
4. Description Preparation Date: 22/2/2024
5. Available Attendance Forms: Attend a lecture

6. Number of Credit Hours (6) / Number of Units (6)

7. Course administrator's name (mention all, if more than one name)

Name: Dr. Mohammed Hadi Alabdali
Email: mohammed.alabdali@atu.edu.iq

8. Course Objectives

Course Objectives	Studying of the most important autoimmune diseases, the etiolog and the mechanism of immunological occurrence, clinical sign treatment.

9. Teaching and Learning Strategies

Strategy	• curriculums and specialized books practical experiments • Latest research and periodicals • Educational videos

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evalu
1	2	Rheumatic diseases and Rheumatoid arthritis		Attend a lecture	
2	2	Systemic lupus erythromatous and Psoriatic arthri		Attend a lecture	
3	2	Ankylosing Spondylitis and Sjogren's syndrome		Attend a lecture	
4	2	Behcet's disease		Attend a lecture	
5	2	Digestive and hepatic diseases		Attend a lecture	
6	2	Pernicious anemia		Attend a lecture	
7	2	Diabetes Mellitus Type I		Attend a lecture	
8	2	Review		Attend a lecture	
9	2	Autoimmune hepatic diseases		Attend a lecture	
10	2	Primary biliary cirrhosis and primary sclerosing cholangitis		Attend a lecture	
11	2	Renal diseases		Attend a lecture	
12	2	Respiratory disease		Attend a lecture	
13	2	Immunological thyroid disease and Immunologica infertility		Attend a lecture	
14	2	Tumor and Tumor markers		Attend a lecture	
15	2	Graft versus host rejection and transplantation		Attend a lecture	

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily written exams, reports .... etc
The theoretical monthly written exam is 20 marks
The monthly written practical exam is 10 marks
The theoretical final written exam is 35 marks

The final practical written exam is 25 marks	
12. Learning and Teaching Resources	
Required textbooks (curricular books, any)	Not available
Main references (sources)	How The Immune System Works (5th ed)
Recommended books and references (scientific journals, reports...)	Cellular and Molecular Immunology, 8ed
Electronic References, Websites	Nucleus Medical Media (YouTube channel) https://www.youtube.com/@nucleusmedicalmedia

Course Description Form

1. Course Name:	
metazoa	
2. Course Code:	
3. Semester / Year:	
Second stage	
4. Description Preparation Date:	
Medical laboratories	
5. Available Attendance Forms:	
6. Number of Credit Hours (Total) / Number of Units (Total)	
6 hours, 6 credit	
7. Course administrator's name (mention all, if more than one name)	
Name : dr. jawad kadhim ali Email : jawad.kadhim@atu.edu.iq	
8. Course Objectives	
Course Objectives	**1- classified metazoa** **2- know spp of metazoa** **3- study pathogenicity and life cycle metazoa** **4- diagnosis of metazoa**
9. Teaching and Learning Strategies	
Strategy	Lectures The exam

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction and characteristic feature of metazoa		
2	2		Cestoda. Taena saginata and solium		
3	2		Hymenolips spp		
4	2		Ecchinococccus granulosus		

5	2		Trematoda. Schistosoma spp		
6	2		Liver fluckes . lung fluckes and intestinal fluckes		
7	2		First monthly exam		
8	2		Nematode, ascaris lumbricoidis. Trichuris trichura		
9	2		Enterobius vermicularis, ancylostoma duodenale. Nicator americanus		
10	2		Cutaneous larva migrans. Subcutaneous larva migrans . visceral larva migrans		
11	2		Filaria . wuchereria bancrofti. loaloa		
12	2		Annelida. Arthrpoda(insect and arachnids)		
13	2		review		
14	2		Second monthly exam		
15	2		Final exam of second course		

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc
. quiz of practice and theory 10marks
. first theory exam 10 marks
Second theory exam 10 marks
First and second practice exam 10 marks
Final practice exam 25 marls
Final theory exam 35

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Protozoa , metazoa and arthropoda
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name: Name of the course:

Medical Mycology / 2nd year / 2nd cource

2. Course Code:

3. Semester / Year:

4. Description Preparation Date: 20/3/2024

5. Available Attendance Forms:

Attend a lecture

6. Number of Credit Hours (Total) / Number of Units (Total)

(3)/ (3)

7. Course administrator's name (mention all, if more than one name)

Name: Ahmed Sadiq

8. Course Objectives

Course Objectives	

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2		Introduction of medical Fungi	Attend a lecture	Quiz discussion
2	2		Structure, reproduction and classification.	Attend a lecture	quiz discussion
3	2		Cultural characteristics, type of mycosis	Attend a lecture	Quiz discussion
4	2		General principle in treatment.	Attend a lecture	Quiz Discussion
5	2		Actinomyces, Nocardia, Mycetoma	Attend a lecture	Quiz Discussion
6	2		Dermatophytes	Attend a lecture	Quiz discussion
7	2		Candidiasis	Attend a lecture	Quiz Discussion
8	2		Cytococcsis	Attend a lecture	Exam.
9	2		Cryptococcusis	Attend a	Quiz discussion

				lecture	
10	2		Histoplasmosis, sporotrichosis	Attend a lecture	Quiz Discussion
11	2		Micellanaus fungi ,Aspergillosis, mucor	Attend a lecture	Quiz Discussion
12	2		Rhizopus & penicillium	Attend a lecture	Quiz discussion
13	2		Anti-fungal agents , antibiotic produced by fungi	Attend a lecture	Quiz Discussion
14	2		Introduction of medical Fungi	Attend a lecture	Quiz Discussion
15	2		Structure, reproduction and classification.	Attend a lecture	Exam.

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc
. quiz of practice and theory 10marks
. first theory exam 10 marks
Second theory exam 10 marks
First and second practice exam 10 marks
Final practice exam 25 marls
Final theory exam 35

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	