Ministry of Higher Education and Scientific Research

Scientific Supervision and Scientific Evaluation Apparatus

Directorate of Quality Assurance and Academic Accreditation

Accreditation Department

Department of Medical Laboratories

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: .**Sawa university**

Faculty/Institute: **College of Health and Medical Technology**

Scientific Department: Medical laboratories

Academic or Professional Program Name: Academic program application

Final Certificate Name: Bachelor's degree

Academic System: **Course/ semester**

Description Preparation Date: **daily**

File Completion Date: **5/4/2024**

Signature:

Head of Department Name:

Date:

Signature:

Scientific Associate Name:

Assist proof..Dr.Nada sami naser

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

Assist .proof.Dr.Hassan Raheem Khudur

1. Program Vision

Department of medical laboratories aspires gain global recognition in the fields of scientific research and teaching by achieving academic quality, as well as local recognition in the field of supplying the labor market with highly qualified scientific personnel.work to prepare specialized professional, scientific and technical medical cadres to work in hospital laboratories,

Place students in a scientific and practical environment to learn about laboratory instrument, The trainee will learn how to operate laboratory equipment in all specialties

2. Program Mission

. Work to prepare specialized professional, scientific and technical medical cadres to work in hospital laboratories, Ministry of Health departments, public and private laboratories, and other relevant departments to serve the community.

3. Program Objectives

1. Work to prepare specialized professional, scientific and technical medical cadres to work in hospital laboratories, Ministry of Health departments, public and private laboratories, and other relevant departments to serve the community.

2. Developing the research, scientific and technical capabilities of teachers and graduates, keeping pace with modern developments, and urging the use of advanced methods in areas of specialization.

3. Working to establish strong joint scientific and research relations with the corresponding departments at the university and other universities by participating in seminars, courses and training workshops and investing in them to develop capabilities as well as mutual benefit in serving the public interest.

4. Program Accreditation

Ministry of Higher Education, Research and Scientific Affairs / Scientific Supervision and Evaluation Authority - Department of Quality Assurance and Academic Accreditation -

Accreditation Department

5. Other external influences

Ministry of Higher Education, Research and Scientific Affairs / Scientific Supervision and Evaluation Authority - Department of Quality Assurance and Academic Accreditation - Accreditation Department

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	10	160-180	90%	
College Requirements	6	160-180	90%	
Department Requirements	6	160-180	90%	
Summer Training	1			
Other				

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

7. Expected learning outcomes of the program

Knowledge	
Teaching the student topics related to medical laboratory specializations.	Teaching the student topics related to medical laboratory specializations.
Skills	
2Preparing and using various methods used in medical laboratories.	Preparing and using various methods used in medical laboratories.
-Training the student on how to obtain forms from auditors for laboratory use.	-Training the student on how to obtain forms from auditors for laboratory use.
Ethics	
Interpreting the results obtained from the analysis and their consistency with the diagnosis of the case	Interpreting the results obtained from the analysis and their consistency with the diagnosis of the case

8. Teaching and Learning Strategies

Books, manuals, practical application, and searching in references and the Internet

9. Evaluation methods

1. Theoretical and practical tests.
2. Discussions.
3. Final exams.

10. Faculty

Faculty Members

Academic Rank Doctor teacher	Specialization Emergency		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Proof. Turki Muften Saad	Biology	Microbiology			✓	
Assist.proof. DrHassan Hantoush Saeed	Veterinary	Histology			✓	
Assist proof Dr Hassen Rheem kudar	Biology	Parasitology			✓	
Dr. Iman Hussein Hassan	Chemistry	Clinical			✓	
Dr. Abdul Rahman Yusr Khalifa	Chemistry	Organic			✓	
M.sc Shorouk Khaled Mahmoud	Chemistry	General			✓	
M.SC Ali Iyad Abdel Hassan	Veterinary	Anatomy			✓	
M.sc Abbas Nazim	Agricultural	Animal			✓	

Bardan	sciences					
Msc Nour Muhammad Jassim	Biology	Molecular			✓	
M,sc Iman Ali Attia	Biotechnology	Biotechonloy			✓	
Dr. Suzan Nasr Muhanna	Medicine	Emergency			✓	
Dr.. Waddah Ali Hussein	Medicine	Hematology			✓	
Ms.c Sakr Abdel Kazem Sakr	Chemistry	clinic			✓	
Ms.c Muhammad Ali Jawad	Biology	genetic			✓	
Dr. Saif Mazal Abdul	Biology	microbiology			✓	
Msc Ahmed Azhar Mansour	Chemistry	clinic			✓	
Msc Salam Ghanem Naguib	COMPUTER	AI			✓	
Msc Zaidoun Hussein Mahdi	biology	MICROBIOLOGY			✓	
M.sc Aqeel Muhammad Rasoul	Chemistry	Clinic			✓	
Dr. Muhammad Habib Dakhel	Biology	Parasitology			✓	
Msc Heba Sahib Sadiq	Biology	Biology			✓	
Msc. Athra Hadi Abdel Amir	Biology	molecular			✓	
M.sc Anhar Ahmed Khanfour	Veterinary	Microbiology			✓	
Assit proof.Nawar Jasem	Veterinary	Microbiology				✓
Assit proof dr .Naer Abud albari	Veterinary	Microbiology				✓
Prood.dr.Karima Agool	Veterinary	Medicine				✓

Professional Development
Mentoring new faculty members
New faculty members were directed to complete a teaching suitability test and entered training courses and workshops to develop their skills in teaching and scientific research.
Professional development of faculty members
Introducing faculty members into training courses and workshops to develop their skills in teaching and scientific research.

11. Acceptance Criterion

1-Central admission.

2- Scientific interview.

3- Preparatory school graduates are accepted exclusively in the scientific (biological) stream.

4-Medical examination.

12. The most important sources of information about the program

Sources approved by the university (sectoral committee).
2- External sources and various books.
3- The Internet.

13. Program Development Plan

. 1- Vocational training in government or private laboratories recognized by health departments for two months

2- Field visits to government laboratories periodically.

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 stage		Medical terminology	Basic	-	-	-		-	-	-		-	-	-	
		On human biology	Basic	-	-	-		-	-	-		-	-	-	
		Laboratory equipment	Basic	-	-	-		-	-	-		-	-	-	
		Ethics	Basic	-	-	-		-	-	-		-	-	-	
		Computer Application	Basic	-	-	-		-	-	-		-	-	-	
		Human rights and democracy	Basic	-	-	-		-	-	-		-	-	-	
		English	Basic	-	-	-		-	-	-		-	-	-	
		General chemistry	Basic	-	-	-		-	-	-		-	-	-	
		Anatomy	Basic	-	-	-		-	-	-		-	-	-	

		Human biology	**Basic**	-	-	-		-	-	-		-	-	-	
		Laboratory equipment	**Basic**	-	-	-		-	-	-		-	-	-	
		Computer principles	**Basic**	-	-	-		-	-	-		-	-	-	
		Arabic		-	-	-		-	-	-		-	-	-	
		Crimes of the Baath Party	**Basic**	-	-	-		-	-	-		-	-	-	
Second stage		Medical bacteriology	Basic	-	-	-		-	-	-		-	-	-	
		Biochemistry	**Basic**	-	-	-		-	-	-		-	-	-	
		Human physiology	**Basic**	-	-	-		-	-	-		-	-	-	
		Histology	**Basic**	-	-	-		-	-	-		-	-	-	
		Molecular biology	**Basic**												
		Medical parasitology	**Basic**	-	-	-		-	-	-		-	-	-	
		Medical bacteriology	**Basic**	-	-	-		-	-	-		-	-	-	
		Biochemistry	**Basic**	-	-	-		-	-	-		-	-	-	

		Human physiology	**Basic**	-	-	-		-	-	-		-	-	-	
		Histology	**Basic**	-	-	-		-	-	-		-	-	-	
		Medical parasitology and entomology	**Basic**	-	-	-		-	-	-		-	-	-	
		Descriptive biostatistics	**Basic**	-	-	-		-	-	-		-	-	-	
Third stage		Histopathology	Basic	-	-	-		-	-	-		-	-	-	
		hematology	**Basic**	-	-	-		-	-	-		-	-	-	
		Viruses and fungi	**Basic**	-	-	-		-	-	-		-	-	-	
		Clinical Chemistry	**Basic**	-	-	-		-	-	-		-	-	-	
		Human Inheritance	**Basic**	-	-	-		-	-	-		-	-	-	
		Immunity	**Basic**	-	-	-		-	-	-		-	-	-	
		Advanced laboratory techniques	**Basic**	-	-	-		-	-	-		-	-	-	

		computer applications	**Basic**	-	-	-		-	-	-		-	-	-	
Fourth stage		Clinical immunology	Basic	-	-	-		-	-	-		-	-	-	
		Diagnostic bacteria	**Basic**	-	-	-		-	-	-		-	-	-	
		Clinical Chemistry	**Basic**	-	-	-		-	-	-		-	-	-	
		Medical parasitology	**Basic**	-	-	-		-	-	-		-	-	-	
		Blood Transfusion	**Basic**	-	-	-		-	-	-		-	-	-	
		Histopathology	**Basic**	-	-	-		-	-	-		-	-	-	
		Graduation Project	**Basic**	-	-	-		-	-	-		-	-	-	
		Research methods	**Basic**	-	-	-		-	-	-		-	-	-	

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

Course Description Form

1. Course Name:
Laboratory instrument
2. Course Code:
3. Semester / Year:
First Semester
4. Description Preparation Date:
5/4/2024
5. Available Attendance Forms:
Daily
6. Number of Credit Hours (Total) / Number of Units (Total)
160 Hours / 3 units
7. Course administrator's name (mention all, if more than one name)
Name: ali ayad abd al-hassan Email: alialjeboryali60@gmail.com
8. Course Objectives
students in a scientific and practical environment to learn about laberetory instrument, The trainee will learn how to operate laboratory equipment in all specialties
9. Teaching and Learning Strategies

Strategy	Course Objectives: **A- Cognitive objectives**: **1-** General introduction and Ordinary Microscope **2-** Light Microscopes Microscopes **3-** Light Microscopes Microscopes Depending on lens system **4-** Light Microscopes Microscopes Depending on optical technique: Bright field **5-** Light Microscopes Microscopes Depending on optical technique microsco Fluorescent **6-** Electron Microscope Parts **7-** Spectrophotometer **8-** Spectrophotometer Parts **9-** Centrifugation Parts **10-** Autoclave **11-** Microbiological Safety Cabine **12-** Microbiological Safety Cabinet Types of safety cabinet Principle **13-** Incubator Types of incubators **14-** .Incubator Types of incubators **15-** BalanceTypes – Parts **B- Skills objectives of the course** 1-Microtome Types of microtome - Rotary Microtome Rotary Microtome parts – 2- Microtome Types of microtome - Rotary Microtome Rotary Microtome parts - Operation o Rotary Microtome Advantages - Disadvantages Care of the Rotary Microtome. 3- Water bath Principle -Parts - Types –Applications 4- Hot Air Oven Principles -Applications -Advantages –Disadvantage 5- PCR machine Essential components required Principles of PCR (Steps of PCR) Applicatio 6-Gel Electrophoresi 7- Agarose Gel Electrophoresis - Principle Electrophoresis Equipment - Electrophoresis Mater Steps of agarose gel electrophoresis – Applications 8- Automated analysers Types - Principle – Applications 9- Complete Blood Count (CBC) machine (Blood Count Analyzer) Principle & Applications 10- Chromatography apparatus (chromatograph) Principle & types - Paper chromatography Th layer chromatography - Column chromatography 11- Chromatography apparatus (chromatograph) Principle & types - Paper chromatography Th layer chromatography - Column chromatography 12- Types & Uses of the filters 13- Laboratory test tubes Types – Applications 14- Laboratory test tubes Types – Applications 16- Review

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical/		General introduction an Ordinary	Lecture, use of the	Theoretical,

	2Practical	knowledge	Microscope	blackboard, and delivery Demo (Use diagrams and pictures Educational using Data show) Educational videos Interactive discussion self education Search references and the Internet	practical/oral and written exams (daily and monthly) and scientific reports
2	2Theoretical/ 2Practical	knowledge	Light Microsco Microscopes	Same above	Same above
3	2Theoretical/ 2Practical	knowledge	Light Microsco Microscopes Depending on l system	Same above	Same above
4	2Theoretical/ 2Practical	knowledge	Light Microsco Microscopes Depending on optical techniqu Bright field	Same above	Same above
5	2Theoretical/ 2Practical	knowledge	Light Microsco Microscopes Depending on optical techniqu microscope Fluorescent	Same above	Same above
6	2Theoretical/ 2Practical	knowledge	Electron Microscope Par	Same above	Same above
7	2Theoretical/ 2Practical	knowledge	Spectrophotom	Same above	Same above

	2Theoretical/ 2Practical	knowledge	Spectrophotom Parts	Same above	Same above
	2Theoretical/ 2Practical	knowledge	Centrifugation Parts	Same above	Same above
1	2Theoretical/ 2Practical	knowledge	Autoclave	Same above	Same above
1	2Theoretical/ 2Practical	knowledge	Microbiological Safety Cabine	Same above	Same above
1	2Theoretical/ 2Practical	knowledge	Microbiologica Safety Cabinet Types of safety cabinet Princip	Same above	Same above
1	2Theoretical/ 2Practical	knowledge	Incubator Type incubators	Same above	Same above
1	2Theoretical/ 2Practical	knowledge	Incubator Type of incubators	Same above	Same above
1	2Theoretical/ 2Practical	knowledge	BalanceTypes - Parts	Same above	Same above

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

Learning and Teaching Resources :

Recommended books and references (scientific journals, reports…)	The sources mentioned above are sufficient
Electronic References, Websites	Laboratory Instrumentation

Course Description Form

1. Course Name:
Crime baath party
2. Course Code:
3. Semester / Year:
3. Semester
4. Description Preparation Date:
١٤/4/2024
5. Available Attendance Forms:
Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30
7. Course administrator's name (mention all, if more than one name)
Name: Aymen Alhajar Email:
8. Course Objectives
1- Gaining the ability to know the most important crimes that were documented by the Supreme Criminal Court in 2005. 2- Knowing the most important crimes for which Saddam Hussein and his entourage were tried. 3- Knowing the effects of crimes committed on innocent citizens. 4- Knowing the most important prison locations where innocent citizens were imprisoned 5- Knowing the most important mass graves that were carried out by the previous regime.
9. Teaching and Learning Strategies

Strategy	1- Lecture, use of the blackboard, and delivery 2- Demonstration (using diagrams and educational pictures using the datashow) 3- Interactive discussion 4- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	جرائم نظام البعث وفق المحكمة الجنايات العليا لسنة ٢٠٠٥	Lectures, using blackboard, givir demonstrations, And the casting The offer is appropriate (Using diagrams Educational usi Datashow) Interactive discussion	Theoretical, practical/oral written exams(daily monthly) and scientific reports
2	2	knowledge	مفهوم الجرائم واقسامه	= = = = = = =	= = = = = = =
3	2	knowledge	أنواع الجرائم الدولية	= = = = = = =	= = = = = = =
5	2	knowledge	لقرارات الصادرة من المحكمة الجنائية العليا	= = = = = = =	= = = = = = =
6	2	knowledge	الجرائم النفسية	= = = = = = =	= = = = = = =
7	2	knowledge	اليات الجرائم النفسية	= = = = = = =	= = = = = = =
8	2	knowledge	الجرائم الاجتماعية	= = = = = = =	= = = = = = =
9	2	knowledge	موقف النظام البعثي من الدين	= = = = = = =	= = = = = = =

10	2	knowledge	انتهاكات القوانين العراقية	= = = = = = =	= = = = = = =
11	2	knowledge	صور انتهاكات حقوق الانسان	= = = = = = =	= = = = = = =
12	2	knowledge	أماكن السجون	= = = = = = =	= = = = = = =
13	2	knowledge	الجرائم البيئية لمنظام البعث في العراق	= = = = = = =	= = = = = = =
14	2	knowledge	التلوث الحربي	= = = = = = =	= = = = = = =
15	2	knowledge	التلوث الاشعاعي وانفجار الألغام	= = = = = = =	= = = = = = =

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.
20 marks for the first semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks, 2.5 marks and attendance)
Second semester (10 theoretical marks + 2.5 mHuman rights in ancient civilizationsarks and attendance + 5 practical marks 2.5 marks and attendance)
Final exam M 60 علاء+

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	The main book descripted in universities
Main references (sources)	

Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Websites available on Google Chrom

Course Description Form

1. Course Name:
English language
2. Course Code:
3. Semester / Year:
3. Semester
4. Description Preparation Date:
١٤/4/2024
5. Available Attendance Forms:
Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
120
7. Course administrator's name (mention all, if more than one name)
Name: Kawthar Attia Email:
8. Course Objectives
The course aims for the student, at the end of the academic year, to be able to become familiar with the English language and medical terminology
9. Teaching and Learning Strategies

Strategy	١- Lecture, use of the blackboard, and delivery ٢- Demonstration (using diagrams and educational pictures using the datashow) ٣- Interactive discussion -٤Self-education
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	**Medical terminology , language medicine , spelling of medical terr pronunciation of medical terms**	Lectures, using blackboard, givir demonstrations, And the casting The offer is appropriate (Using diagrams Educational usi Datashow) Interactive discussion	Theoretical, practical/oral written exams(daily monthly) and scientific reports
2	2	knowledge	Light **Medical terminology , languag medicine , spelling of medical terr pronunciation of medical terms**	= = = = = = =	= = = = = = =
3	2	knowledge	**Medical terminology , language medicine , spelling of medical terr pronunciation of medical terms**	= = = = = = =	= = = = = = =
5	2	knowledge	Suffiex of medical terms,focus on read ,Vacubalary development , focus grammer	= = = = = = =	= = = = = = =
6	2	knowledge	Suffiex of medical terms,focus on reading ,Vacubalary development , focus on grammer	= = = = = = =	= = = = = = =
7	2	knowledge	, Suffiex of medical terms,focus on reading ,Vacubalary development , focus on grammer	= = = = = = =	= = = = = = =
8	2	knowledge	preffiex of medical terms,focus on reading ,Vacubalary development , focus on grammer	= = = = = = =	= = = = = = =
9	2	knowledge	preffiex of medical terms,focus on reading ,Vacubalary development , focus on grammer	= = = = = = =	= = = = = = =

10	2	knowledge	preffiex of medical terms,focus on reading ,Vacubalary development , focus on grammer	= = = = = = =	= = = = = = =
11	2	knowledge	Body structure, priniciple of body system , plane of the body,orientation and direction term	= = = = = = =	= = = = = = =
12	2	knowledge	Body structure, priniciple of body system , plane of the body,orientation and direction term	= = = = = = =	= = = = = = =
13	2	knowledge	Body structure, priniciple of body system , plane of the body,orientation and direction term	= = = = = = =	= = = = = = =
14	2	knowledge	Body systems,focus on reading ,Vacubalary development , focus on grammer	= = = = = = =	= = = = = = =
15	2	knowledge	Body systems,focus on reading ,Vacubalary development , focus on gramme	= = = = = = =	= = = = = = =

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.
20 marks for the first semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks, 2.5 marks and attendance)
Second semester (10 theoretical marks + 2.5 mHuman rights in ancient civilizationsarks and attendance + 5 practical marks 2.5 marks and attendance)
Final exam M 60 علاء+

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Not found
Main references (sources)	

Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Websites available on Google Chrom

Course Description Form

1. Course Name: **chemistry**

2. Course Code:

3. Semester / Year: first / 2024-2025

4. Description Preparation Date: 4/4/2024

5. Available Attendance Forms: Daily

6. Number of Credit Hours (Total) / Number of Units (Total)٣٠

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

Name: seger abdulkhadim seger
Email: sager19933@gmail.com

8. Course Objectives

Course Objectives	• **1. The student gets to know the general conc** • **2. That the student acquires intellectual skills trends.** • **3. Knowing the basics of the crisis and under body functions** • **4. Acquiring skills in dealing with scienes tha** • **5. That the student acquires ways to unerstan theories.** • **6. The student usually develops through labo experiments.**

9. Teaching and Learning Strategies

Strategy	1. Study the properties of chemistry

	2. The student has skills in working in the laboratory field 3. Dealing with various chemistry laboratory equipment 4. The student has skills in working in the field of health and en iron

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation n ethod
1	٢	**Introduction**	**Introduction to chemistry(matter,structureof atom,periodic table,isotopes,atome number,types of bond)**	Theoreti	
2	٢	Analytical chemistry	analytical chemistry Methods of analysis Types of solution	Theoreti	
3	٢	Molar	Molar solution ,normal solution,parts per million	Theoreti	
4	٢	Acid –base	Acid –base theory,types of chemistry reaction,PH	Theoreti	
5	٢	Periodic table	Periodic table ,equilibrium constant,buffer solution	Theoreti	
6	٢	Acid-base	Acid-base titration,oxidation-reaction	Theoreti	
7	٢	Spectroscop	Spectroscopy (optical spectroscopy, Beer"s lambert law	Theoreti	
8	٢		Review and exam	Theoreti	
9	٢	Structure of carbon	Structure of carbon compounds(alkans,alkenes, alkynes, halogen compound)	Theoreti	
10	٢	Structure of carbon **s**	Structure of carbon compounds(alkans,alkenes, alkynes, halogen compound)	Theoreti	
11	٢	Alcohols	Alcohols , classification, properties reaction	Theoreti	
12	٢	Aldehydes ketones	Aldehydes and ketones properties reaction	Theoreti	

13	٢	Carboxylic acide,	Carboxylic acide, aromatic , hydrocarbon	Theoreti	
14	٢	Carboxylic acide,	Car boxylic acide, aromatic, hydrocarbon	Theoreti	
15	٢	Amines	Amines ,properties,chemical reaction	Theoreti	

11. Course Evaluation

The exams. Students take exams , experiments, and conduct seminars.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Basics of chemistry Advanced Inorganic Chemistry.Fourth Edition, John Wiley &Sons,
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Wikipedia

Course Description Form

1. Course Name:
Practical instrument
2. Course Code:
3. Semester / Year:
3. course 2
4. Description Preparation Date:
6/4/2024
5. Available Attendance Forms:
Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
120
7. Course administrator's name (mention all, if more than one name)
Name: Hiba sahib sadiq Email: hebasahib1@gmail.com
8. Course Objectives
1- Identify the external appearance of the user's device and its scientific name. **2- Gaining experience in operating and working laboratory equipment, how to use it, and differentiating between devices in terms of use.** **3- How to use the existing device and maintain it by cleaning it and knowing its importance wl taking all necessary precautions for each device in the laboratory.** **4. Defining devices, knowing the types of each device, and the specific function of the devices. Explain the principle of the devices and know the image of each device**
9. Teaching and Learning Strategies

Strategy	- Girls' blackboard lecture and recitation - Presentation to me (using diagrams and teaching aids using datashow) - Share Share - self education - Operating devices and knowing the use of each device - Student participation during the lecture, presentation of seminars, and short-time quick exams

	- Extension exams for theoretical and practical subject - Urging students to solve intellectual questions. - Conducting intellectual competitions related to scientific material. utting students in a scientific and practical environment related to laboratory tools to deduce diagnoses from data. rging students to compete with each other to achieve advanced ɔsitions within the academic subject to obtain grades and moral awards.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	General introduction Ordinary Microscope.	Lectures, using blackboard, giving demonstrations, And t casting The offer is appropriat (Using diagrams etc Educational using Datashow) Interactive discussion	Theoretical, practical/oral written exams(daily monthly) and scientific reports
2	2	knowledge	Light Microscopes Microscopes Depending on lens system: 1. Simple microscope 2. Compound microscope	= = = = = = =	= = = = = = =
3	2	knowledge	Parts & principle of microscope Illumination, Magnification resolution. Setting up & Applications Care & safety	= = = = = = =	= = = = = = =
5	2	knowledge	Light Microscopes	= = = = = = =	= = = = = = =
6	2	knowledge	Microscopes Depending on optical technique: Bright field microscope, Dark field microscope.	= = = = = = =	= = = = = = =

7	2	knowledge	Phase Contrast microscope , Fluorescent microscope	= = = = = = =	= = = = = = =
8	2	knowledge	Parts & principle Setting up & Applications Care & safety	= = = = = = =	= = = = = = =
9	2	knowledge	Electron Microscope Parts & principle Magnification & resolution Applications	= = = = = = =	= = = = = = =
10	2	knowledge	Spectrophotometer Parts & principle setting up	= = = = = = =	= = = = = = =
11	2	knowledge	Centrifugation Parts & principle of the centrifuge Types & Applications Care and safety	= = = = = = =	= = = = = = =
12	2	knowledge	Centrifugation Parts & principle of the centrifuge Types & Applications Care and safety	= = = = = = =	= = = = = = =
13	2	knowledge	Microbiological Safety Cabinet Types of safety cabinet Principle & Applications Maintenance of safety cabinet	= = = = = = =	= = = = = = =
14	2	knowledge	Incubator Types of incubators Principle & Applications Care of incubator	= = = = = = =	= = = = = = =
15	2	knowledge	Balance Types – Parts – Applications – Advantages – Disadvantage	= = = = = = =	= = = = = = =

11. Course Evaluation

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

20 marks for the first semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks, 2.5 marks and attendance) Second semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks 2.5 marks and attendance) Final exam M 60 (35 theoretical + 25 practical)	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Not found
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Braybrook, J. H. (1997). Biocompatibility assessment of medical devices and materials. (N Title). Algezani, S. (2016). Biocompatibili of diazonium adhesives for denta applications. McGill University (Canada).
Electronic References, Websites	Websites available on Google Chron

Course Description Form

1. Course Name:
Medical terminology
2. Course Code:
3. Semester / Year:
3. Semester
4. Description Preparation Date:
١٤/4/2024
5. Available Attendance Forms:
Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30
7. Course administrator's name (mention all, if more than one name)
Name: Aymen Alhajar Email:
8. Course Objectives
1. Definition of terminology. 2. Techniques for constructing a medical term. 3. Study the roots of medical terms, prefixes, and endings. 4. Study medical terminology related to cell science, tissue, organs, and systems. 5. Study medical terminology related to the various human body systems 6. Dealing with medical terminology related to medical laboratories.
9. Teaching and Learning Strategies

Strategy	1- Lecture, use of the blackboard, and delivery 2- Demonstration (using diagrams and educational pictures using the datashow) 3- Interactive discussion 4- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	**Introduction, defining medical terminology, techniques of medical word building, elements of medical word, word root, suffixes, prefixes**	Lectures, using blackboard, givir demonstrations, And the casting The offer is appropriate (Using diagrams Educational usi Datashow) Interactive discussion	Theoretical, practical/oral written exams(daily monthly) and scientific reports
2	2	knowledge	**Common prefixes, comn suffixes ,body structure key ter ,level of organization: c tissue,organ, system**	= = = = = = =	= = = = = = =
3	2	knowledge	**Pathology and abnormal condit :tumors, infection a inflammation,symptoms ,diseas and diagnosis**	= = = = = = =	= = = = = = =
5	2	knowledge	**Integumentary (skin) system**	= = = = = = =	= = = = = = =
6	2	knowledge	**Musculoskeletal system**	= = = = = = =	= = = = = = =
7	2	knowledge	**Digestive system and Cardiovascular system**	= = = = = = =	= = = = = = =
8	2	knowledge	**Blood, lymph and immune system**	= = = = = = =	= = = = = = =
9	2	knowledge	**Respiratory system**	= = = = = = =	= = = = = = =

10	2	knowledge	**Nervous system and Special senses**	= = = = = = =	= = = = = = =
11	2	knowledge	**Endocrine system**	= = = = = = =	= = = = = = =
12	2	knowledge	**Urinary system and Reproductive system**	= = = = = = =	= = = = = = =
13	2	knowledge	**Gynecology, pregnancy ,embryology and childbirth**	= = = = = = =	= = = = = = =
14	2	knowledge	**Childhood, growth and development**	= = = = = = =	= = = = = = =
15	2	knowledge	**Medical record activity and writing a diagnostic report** .	= = = = = = =	= = = = = = =

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.
20 marks for the first semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks, 2.5 marks and attendance)
Second semester (10 theoretical marks + 2.5 mHuman rights in ancient civilizationsarks and attendance + 5 practical marks 2.5 marks and attendance)
Final exam M 60 علاء+

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Nath, Judi Lindsley; Lindsley, Kelsey P. A Short Course in Medical Terminology. Wolters Kluwer Health, 2018 2- Medical Terminology , Pubmed ,D.S. Malik, Thomson learning,2002
Main references (sources)	

Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Websites available on Google Chrom

Course Description Form

1. Course Name: medical ethics

2. Course Code:

3. Semester / Year: first / 2023-2024

4. Description Preparation Date: 4/4/2024

5. Available Attendance Forms: Daily

6. Number of Credit Hours (Total) / Number of Units (Total)٣٠

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

Name:
Email:

8. Course Objectives

Course Objectives	• **Introducing the student to the principles a ethics of the medical profession** • **Introducing the student to medical tradition throughout the ages** • **Make the student familiar with the appropr method for dealing with patients, devic and equipment in the field of work**

9. Teaching and Learning Strategies

Strategy	Books, manuals and practical application

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	٢	Knowledge	Principles of professional ethics in the stages of cultural developments	Theoretical	Tests
2	٢	Knowledge	Professional behavior, its definition - its concept an practical applications	Theoretical	Tests
3	٢	Knowledge	Characteristics and attributes of health worke - appearance, behavior, a commitment. Moral and l rights of the patient. Deali according to the behavior the patient and his companions.	Theoretical	Tests
4	٢	Knowledge	Behavioral/human-interactive-collective patterns: their definition, nature, motives, and explanations	Theoretical	Tests
5	٢	Knowledge	Linguistic and non-linguis communication methods: their definition, types, effects, designing success communication methods, how communication methods affect behavior, art of listening and listeni and how to practice it, wit practical examples mentioned.	Theoretical	Tests
6	٢	Knowledge	Behavioral trends and tendencies, their definitio classification, factors affecting them, and ways establishing them	Theoretical	Tests
7	٢	Knowledge	Values, customs and traditions: their definitio classification, factors influencing them, and wa of establishing them	Theoretical	Tests
8	٢	Knowledge	Personality types, how to deal with them, definition personality, types, and th relationship	Theoretical	Tests
9	٢	Knowledge	Safety in laboratories: instructions and tools	Theoretical	Tests
10	٢	Knowledge	Types of laboratories, laboratory equipment. Fo collection tools	Theoretical	Tests
11	٢	Knowledge	Devices related to pollutio and infection prevention methods	Theoretical	Tests
12	٢	Knowledge	Sterilization, physical and chemical sterilization	Theoretical	Tests

13	٢	Knowledge	The risks of working in medical laboratories and ways to prevent them	Theoret al	Te sts
14	٢	Knowledge	Occupational safety: prevention of work risks a accidents, prevention of r of bacterial, dental and radioactive contaminatio prevention of infection ris of infectious and communicable diseases	Theoret al	Te sts
15	٢	Knowledge	review	Theoret al	Te sts

11. Course Evaluation

The exams. Students take exams , experiments, and conduct seminars.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	كتيب السلوك المهني لالطباء تأليف للحكيم راجي التكريتي 2 - Laboratory Safety Manual / October 2017 / University of Washingto
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name:	
Arabic language	
2. Course Code:	
3. Semester / Year:	
3. Semester	
4. Description Preparation Date:	
١٤/4/2024	
5. Available Attendance Forms:	
Daily attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
120	
7. Course administrator's name (mention all, if more than one name)	
Name: Kawthar Attia Email:	
8. Course Objectives	
The course aims for the student, at the end of the academic year, to be able to express himself in the Arabic language correctly and with great eloquence	
9. Teaching and Learning Strategies	
Strategy	١- Lecture, use of the blackboard, and delivery ٢- Demonstration (using diagrams and educational pictures using the datashow) ٣- Interactive discussion ٤- Self-education
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	الاسم والفعل والحرف	Lectures, using blackboard, givir demonstrations, And the casting The offer is appropriate (Using diagrams Educational usi Datashow) Interactive discussion	Theoretical, practical/oral written exams(daily monthly) and scientific reports
2	2	knowledge	النون والتنوين	= = = = = = =	= = = = = = =
3	2	knowledge	الهمزة	= = = = = = =	= = = = = = =
5	2	knowledge	الاخطاء اللغوية الشائعة	= = = = = = =	= = = = = = =
6	2	knowledge	المفاعبل	= = = = = = =	= = = = = = =
7	2	knowledge	العدد	= = = = = = =	= = = = = = =
8	2	knowledge	التميز	= = = = = = =	= = = = = = =
9	2	knowledge	الحال	= = = = = = =	= = = = = = =

10	2	knowledge	**الاستثناء**	= = = = = = =	= = = = = = =
11	2	knowledge	**المعرب والمبني**	= = = = = = =	= = = = = = =
12	2	knowledge	**المعرفة والذكرة**	= = = = = = =	= = = = = = =
13	2	knowledge	**المعرب والمبني**	= = = = = = =	= = = = = = =
14	2	knowledge	الممنوع من الصرق	= = = = = = =	= = = = = = =
15	2	knowledge	ان واخواتها وكان واخواتها	= = = = = = =	= = = = = = =

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.
20 marks for the first semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks, 2.5 marks and attendance)
Second semester (10 theoretical marks + 2.5 mHuman rights in ancient civilizationsarks and attendance + 5 practical marks 2.5 marks and attendance)
Final exam M 60 علاء+

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Not found
Main references (sources)	

Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Websites available on Google Chrom

Course Description Form

1. Course Name:
Computer applications – Microsoft Power Point
2. Course Code:
3. Semester / Year:
Semester 1
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms
: Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total):
2 hours (theoretical) + 2 hours (practical) / 6 units
7. Course administrator's name (mention all, if more than one name)
Name: Assist.dr. Salam Ghanim Najeeb Email: Salam.alnajeb@yahoo.com
8. Course Objectives

Course Objectives	1- Understanding software fundamentals: Learning the program interface and main tools in Power Point . 2- Data and analysis skills: Entering data and using formulas and functions for data analysis Power Point

9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard and presentation 2- Demonstration (using graphs, pictures and educational films using a data projector) 3- Interactive discussion 4- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes		Learning method	Evaluation method
1	4	knowledge	Power Point program: the	-Lecture, use of the blackboard and	Theoretical, practical/oral and

			concept of the program and its benefits in running it, the components of the main screen, the concept of presentations	presentation -Demonstration (using graphs, pictures and educational films using a data projector) -Interactive discussion -Self-education - Open educational classes using the Classroom platform	written examinations (daily, monthly and midterm exam) and scientific reports
2	**4**	knowledge	Build a new presentation through the templates provided by the program, or work directly, store the presentation, perform the presentation, make modifications, and save the changes.	====	====
3	**4**	knowledge	Tabs in PowerPoint, tools within tabs	====	====
4	**4**	knowledge	Planning to build the presentation, inserting a new slide, whether it contains text or an image, entering notes, entering main titles -headers -footers- for the slide	====	====
5	**4**	knowledge	Learn how to add drawings through the available drawing tools, modify the text, control its shape and layout, change the plan, and control the colors and background of the slide.	====	====
6	**4**	knowledge	How to conduct Power point	====	====
7	**4**	knowledge	Adding slides and using ready-made formats in preparing PowerPoint	====	====
8	**4**	knowledge	- Adding a clip chart and ways to control it, such as zooming in, zooming out or cropping, adding natural images and tools to control them, adding charts from Excel or a data page from databases.	====	====
9	**4**	knowledge	*Dealing with various presentation commands, such as timing, transitions from one slide to another, and their methods*	====	====
10	**4**	knowledge	clipboard Slides Group FontGroup	====	====
11	**4**	knowledge	paragraphGroup Images Group Illustration Group	====	====
12	**4**	knowledge		====	====

13	**4**	knowledge	TablesGroup dealing with Smart Art and sound effects for slides	====	====
14	**4**	knowledge	dealing with Smart Art Chart	====	====
15	**4**	knowledge	Animation methods and sound effects for slides	====	====

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

40 marks (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 5 marks for daily preparation and daily tests + 5 marks for the first practical exam + 5 marks for the second monthly practical exam)
60 marks (20 marks final practical exam + 40 marks final theoretical exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	not available
Main references (sources)	1-Computer principles 2- Computer applications – Microsoft Power Point
Electronic References, Websites	Websites available on Google Chrome

Course Description Form

1. Course Name:
Computer applications
2. Course Code:
3. Semester / Year:
Semester 1
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms
: Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total):
2 hours (theoretical) + 2 hours (practical) / 6 units
7. Course administrator's name (mention all, if more than one name)
Name: Assist.dr. Salam Ghanim Najeeb Email: Salam.alnajeb@yahoo.com
8. Course Objectives

Course Objectives	1- Understanding fundamental concepts: Students learn the basics of computer science such as how computers work and process data and information. 2- Developing programming skills: Students learn how to write simple programs and understand how to run and use them. 3- Applying practical concepts: Students are encouraged to apply the concepts they have learned in solving practical programming problems and developing simple applications. 4- Enhancing independence in learning: Students are encouraged to research and learn more independently outside the classroom to further develop their programming skills. •

9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard and presentation 2- Demonstration (using graphs, pictures and educational films using a data projector) 3- Interactive discussion 4- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	knowledge	The concept of the Windows system, its advantages, and basic requirements	-Lecture, use of the blackboard and presentation -Demonstration (using graphs, pictures and educational films using a data projector) -Interactive discussion -Self-education - Open educational classes using the Classroom platform	Theoretical, practical/oral and written examinations (daily, monthly and midterm exam) and scientific reports
2	4	knowledge	Windows OS	====	====
3	4	knowledge	System operation, desktop main screen components	====	====
4	4	knowledge	icon and dealing with the mouse and entering and running programs	====	====
5	4	knowledge	Taskbar, use start to enter programs, exit the system, and shut down the calculator	====	====
6	4	knowledge	The concept of the window for any program and identifying its main components, dealing with icons Desktop like (My computer, My document, Recycle bin)	====	====
7	4	knowledge	Control panel- Mouse	====	====
8	4	knowledge	Dealing with Ms-DOS And programs.	====	====
9	4	knowledge	*Computer security*	====	====
10	4	knowledge	Computer privacy and electronic hacking	====	====
11	4	knowledge	Sources and types of penetration Security risks	====	====
12	4	knowledge	Viruses	====	====
13	4	knowledge	Mechanisms for protection against electronic hacking	====	====

			and blackmail		
14	**4**	knowledge	Electronic vulnerabilities and electronic penetration, methods and solutions	**====**	**====**
15	**4**	knowledge	The concept of computer viruses: how to infect, their types, treatment, and dealing with them through anti-virus programs available within the Windows operating system environment.	**====**	**====**

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

40 marks (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 5 marks for daily preparation and daily tests + 5 marks for the first practical exam + 5 marks for the second monthly practical exam)
60 marks (20 marks final practical exam + 40 marks final theoretical exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	not available
Main references (sources)	1-Computer principles 2- Windows operating system
Electronic References, Websites	Websites available on Google Chrome

Course Description Form

1. Course Name:
Human biology
2. Course Code:
3. Semester / Year:
Semester 2
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms
: Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total):
2 hours (theoretical) + 2 hours (practical) / 6 units
7. Course administrator's name (mention all, if more than one name)
Name: Assist. Lecturer Zaydoon Hussein Mahdi Email: zaydoon.h@sawauniversity.edu.iq
8. Course Objectives

Course Objectives	• 1- Learn about biology sciences in general. • 2- Introducing cells, types of cells, and their vital components. • 3- Knowing the concept of biological cells, their direct and indirect types, and how direct and indirect movement occurs in which type of cell. • 4- Identify the components of the human body, including cells, tissues, organs, and systems. • 5- Identifying the human body's systems, their functions, components, and the diseases that

	affect them. • 6- Identifying the microorganisms that infect humans and cause diseases.

9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard and presentation 2- Demonstration (using graphs, pictures and educational films using a data projector) 3- Interactive discussion 4- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**2**	knowledge	Harmful Activity of Bacteria, (Bacterial Diseases in Human and Animals, Control of bacteria	-Lecture, use of the blackboard and presentation -Demonstration (using graphs, pictures and educational films using a data projector) -Interactive discussion -Self-education - Open educational classes using the Classroom platform	Theoretical, practical/oral and written examinations (daily, monthly and midterm exam) and scientific reports
2	**2**	knowledge	Kingdom of Protista, Simple Algae, Harmful of Algae	**====**	**====**
3	**2**	knowledge	Kingdom of Protista, Protozoans, Classification of Protozoa.	**====**	**====**
4	**2**	knowledge	Phylum of Sarcodina, Amoebae's, Phylum of Zoomastigina, Trypanosome, Giardia	**====**	**====**
5	**2**	knowledge	Phylum of Sporozoa, Plasmodium.	**====**	**====**
6	**2**	knowledge	Kingdom of Fungi, Classification, Reproduction	**====**	**====**
7	**2**	knowledge	Harmful Activities of Fungi	**====**	**====**
8	**2**	knowledge	Yeast and Yeast like Fungi, Characteristic and Classification, Candida.	**====**	**====**
9	**2**	knowledge	Kingdom of Animals, Classification, Invertebrates and Vertebrates, Importance to Human Diseases	====	**====**
10	**2**	knowledge	Human Bodies, Protection, Support and Locomotion	====	**====**

11	**2**	knowledge	Human Body Defense (Immunity, Antigen, Antibody), Hormones, Enzymes	**====**	**====**
12	**2**	knowledge	Helminths, Characteristics and Classification.	**====**	**====**
13	**2**	knowledge	Flat Worms, Round Worms, Classification, Harm full Activities to Human.	**====**	**====**
14	**2**	knowledge	Management of industrial, agricultural and medical waste	**====**	**====**

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

40 marks (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 5 marks for daily preparation and daily tests + 5 marks for the first practical exam + 5 marks for the second monthly practical exam)
60 marks (20 marks final practical exam + 40 marks final theoretical exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	not available
Main references (sources)	By: Michael D. Johnson
Electronic References, Websites	Free Human Biology manual PDF avail athttps://openlab.citytech.cuny.edu/oer-human-biology/coursebook/

Course Description Form

1. Course Name:
Human biology
2. Course Code:
3. Semester / Year:
Semester 1
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms
: Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total):
2 hours (theoretical) + 2 hours (practical) / 6 units
7. Course administrator's name (mention all, if more than one name)
Name: Assist. Lecturer Zaydoon Hussein Mahdi Email: zaydoon.h@sawauniversity.edu.iq
8. Course Objectives

Course Objectives	• 1- Learn about biology sciences in general. • 2- Introducing cells, types of cells, and their vital components. • 3- Knowing the concept of biological cells, their direct and indirect types, and how direct and indirect movement occurs in which type of cell. • 4- Identify the components of the human body, including cells, tissues, organs, and systems. • 5- Identifying the human body's systems, their functions, components, and the diseases that

	affect them. • 6- Identifying the microorganisms that infect humans and cause diseases.

9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard and presentation 2- Demonstration (using graphs, pictures and educational films using a data projector) 3- Interactive discussion 4- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**2**	knowledge	Defintion of Biology, The Science of Biology, Importance of study Biology, Cell Theory, Some sub division of Biology	-Lecture, use of the blackboard and presentation -Demonstration (using graphs, pictures and educational films using a data projector) -Interactive discussion -Self-education - Open educational classes using the Classroom platform	Theoretical, practical/oral and written examinations (daily, monthly and midterm exam) and scientific reports
2	**2**	knowledge	The Kingdom of Living thing, Classification of Organisms, Categories of Classification of Organisms, The five Kingdom Scheme of Classification	**====**	**====**
3	**2**	knowledge	Cell Structure, Organelles.	**====**	**====**
4	**2**	knowledge	Function, Phsiocal properties of cells	**====**	**====**
5	**2**	knowledge	Cell Membrane, Structure, Function, Endocytosis, Exocytosis .	**====**	**====**
6	**2**	knowledge	Chemical composition of Cells, Biochemistry of cell.	**====**	**====**
7	**2**	knowledge	Prokaryotes Cells, Eukaryotes Cells, Difference, Characteristics and Comparison.	**====**	**====**
8	**2**	knowledge	The Chrarcteristics of Living things (Organisms), Evaluation , Adaptation Respiration, Homeostasis, Metabolism, Anabolism, Catabolism, Respond to stimuli,	**====**	**====**

			Reproduction.		
9	**2**	knowledge	Cell Division(Mitosis)	====	**====**
10	**2**	knowledge	Cell Division (Meiosis)	====	**====**
11	**2**	knowledge	Inheritance, Genetic Concepts and Principles	**====**	**====**
12	**2**	knowledge	Gene Expression, Concepts, Mechanism of action	**====**	**====**
13	**2**	knowledge	Organ Systems (Digestive, Circulatory, Respiratory, Urinary, Muscularly, Nervous) Systems	**====**	**====**
14	**2**	knowledge	Viruses, Viriods, Prions, Bcteriophages, Viral life cycle, Characteristics, Shapes, Viral Human Diseases, Harmful of Viruses	**====**	**====**
15	**2**	knowledge	Kingdom of Monera:Phylum Schizophyta (Bacteria), Classification Stucture, Morphology, Growth, Function, Motility	**====**	**====**

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

40 marks (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 5 marks for daily preparation and daily tests + 5 marks for the first practical exam + 5 marks for the second monthly practical exam)
60 marks (20 marks final practical exam + 40 marks final theoretical exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	not available
Main references (sources)	By: Michael D. Johnson
Electronic References, Websites	Free Human Biology manual PDF avail athttps://openlab.citytech.cuny.edu/oer-human-biology/coursebook/

Course Description Form

1. Course Name:
human rights
2. Course Code:
3. Semester / Year:
3. Semester
4. Description Preparation Date:
١٤/4/2024
5. Available Attendance Forms:
Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
120
7. Course administrator's name (mention all, if more than one name)
Name: Kawthar Attia Email:
8. Course Objectives
1- Identify the external appearance of the user's device and its scientific name. **2- Gaining experience in operating and working laboratory equipment, how to use it, and differentiating between devices in terms of use.** **3- How to use the existing device and maintain it by cleaning it and knowing its importance wl taking all necessary precautions for each device in the laboratory.** **4. Defining devices, knowing the types of each device, and the specific function of the devices. Explain the principle of the devices and know the image of each device**
9. Teaching and Learning Strategies

Strategy	Monitoring, investigating and analyzing the human rights situation -1 suing reports on human rights issues and preventing human rights violations -2 forming individuals and society of their rights, freedoms, and the duties delegated to them .-3 :You can benefit from the following Studying human rights helps in developing oneself -1

	dividuals' knowledge of their rights and duties towards other -2 individuals and towards the state hey are considered rules that guarantee everyone a standard -3 of living that achieves dignity, equality and justice ıe students worked in groups for the purposes of seminars in order to . ıcourage them to self-educate and research the simplest human rights, in addition to assigning students to work on projects through these ؟groups and using the Internet to complete the work

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	The concept of human rights	Lectures, using blackboard, givir demonstrations, And the casting The offer is appropriate (Using diagrams Educational usi Datashow) Interactive discussion	Theoretical, practical/oral written exams(daily monthly) and scientific reports
2	2	knowledge	Natural right - and positive right	= = = = = = =	= = = = = = =
3	2	knowledge	Human rights in law	= = = = = = =	= = = = = = =
5	2	knowledge	Individual rights and collective righ	= = = = = = =	= = = = = = =
6	2	knowledge	Economic, social and cultural rights	= = = = = = =	= = = = = = =
7	2	knowledge	Economic, social and cultural rights	= = = = = = =	= = = = = = =

8	2	knowledge	Solidarity Rights Sect	= = = = = = =	= = = = = = =
9	2	knowledge	Human rights categories	= = = = = = =	= = = = = = =
10	2	knowledge	The historical development of human rights - the customary stage - the legal stage - the constitutional stage	= = = = = = =	= = = = = = =
11	2	knowledge	Human rights in ancient civilizations	= = = = = = =	= = = = = = =
12	2	knowledge	The Code of Ornmu - The Code of Bit-Ishtar - The Code of the Kingdom of Eshnunna - The Code of Hammurabi	= = = = = = =	= = = = = = =
13	2	knowledge	The Code of Ornmu - The Code of Bit-Ishtar - The Code of the Kingdom of Eshnunna - The Code of Hammurabi	= = = = = = =	= = = = = = =
14	2	knowledge	Human rights in ancient civilizations	= = = = = = =	= = = = = = =
15	2	knowledge	Human rights in divine laws - the Jewish religion - the Christian religion - Islamic law	= = = = = = =	= = = = = = =

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.
20 marks for the first semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks, 2.5 marks and attendance)
Second semester (10 theoretical marks + 2.5 mHuman rights in ancient civilizationsarks and attendance + 5 practical marks 2.5 marks and attendance)
Final exam M 60 علاء+

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Not found
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Braybrook, J. H. (1997). Biocompatibility assessment of medical devices and materials. (Nc Title). Algezani, S. (2016). Biocompatibility diazonium adhesives for dental applications. McGill University (Canada).
Electronic References, Websites	Websites available on Google Chrom

Course Description Form

1. Course Name:
anatomy
2. Course Code:
3. Semester / Year:
Semester
4. Description Preparation Date:
5/4/2024
5. Available Attendance Forms:
Daily
6. Number of Credit Hours (Total) / Number of Units (Total)
35Hours/4 unites
7. Course administrator's name (mention all, if more than one name)
Name: ali ayad abd al-hassan Email: alialjeboryali60@gmail.com
8. Course Objectives

students in a scientific and practical environment to lear about A basic study of anatomy and learning about the rules and organization of the human body and the structure of organs and systems.	

9. Teaching and Learning Strategies	
Strategy	**Course Objectives** :course2 1- **General Anatomy :Introduction to anatomy and human body, level of organization ,anatomical position ,body regions and cavities ,body planes and sections ,directional terms.** 2- **Tissues and membranes** 3- Body regions Upper limb ,lower limb ,thorax 4- **Abdomen ,pelvis ,head and neck** 5- **Body systems :Musculoskeletal system: Bones ,joints and muscles** 6- **Digestive system: Digestive tract ,Accessories and glands** 7- **Cardiovascular system: heart , blood vessels.** 8- **lymphatic system.** 9- **Respiratory system**

	10-Nervous system: central nervous system ,peripheral nervous system **11-Endocrine system .** 12- **Special senses** 13- **Urinary system** 14- **Reproductive system** 15- **Gynecology, pregnancy , childbirth , Embryology, Childhood , Fetal growth and development**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical/ 2Practical	knowledge	**General Anatomy :Introduction to anatomy and human body, level of organization ,anatomical position ,body regions an cavities ,body planes and sections ,directional term**	Lecture, use of the blackboard, and delivery Demo (Use diagrams and pictures Educational using Data show) Educational videos Interactive discussion self education Search references and the Internet	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports

2	2Theoretical/ 2Practical	knowledge	**Tissues and membranes**	Same above	Same above
3	2Theoretical/ 2Practical	knowledge	Body regions Upper limb ,lower limb ,thorax	Same above	Same above
4	2Theoretical/ 2Practical	knowledge	**Abdomen ,pelvis ,head a neck**	Same above	Same above
5	2Theoretical/ 2Practical	knowledge	Body systems :Musculoskeleta system: Bones ,joints and musc	Same above	Same above
6	2Theoretical/ 2Practical	knowledge	Digestive system: Digestive tract ,Accessories and glands	Same above	Same above
7	2Theoretical/ 2Practical	knowledge	Cardiovascular syst heart , blood vessel	Same above	Same above
8	2Theoretical/ 2Practical	knowledge	lymphatic system.	Same above	Same above
9	2Theoretical/ 2Practical	knowledge	Respiratory system	Same above	Same above
10	2Theoretical/ 2Practical	knowledge	Nervous system: central nervous system ,peripheral nervous system	Same above	Same above
11	2Theoretical/ 2Practical	knowledge	Endocrine system .	Same above	Same above
12	2Theoretical/ 2Practical	knowledge	Special senses	Same above	Same above
13	2Theoretical/ 2Practical	knowledge	Urinary system	Same above	Same above
14	2Theoretical/ 2Practical	knowledge	Reproductive system	Same above	Same above
15	2Theoretical/ 2Practical	knowledge	Gynecology, pregnancy , childbirth , Embryology, Childhood , Fetal growth and development	Same above	Same above

11. Course Evaluation

Distribution of a score out of 100 according to the student's choice for daily preparation, daily, oral, and monthly exams, editing, reports, etc.
40 annual work grades (5 Japanese exams + 5 second Japanese exams + 10 midterm exams) + 5 daily preparation procedures and daily exams + 15 second Japanese exams)
60 marks (35 marks theoretical exam + 25 marks final exam)

Learning and Teaching Resources :	
Recommended books and references (scientific journals, reports…) **1-Drake R.L. (eds) (2019). Gray's Anatomy for Students. London: Elsevier.** **2-Netter, F. (2000). Grants Atlas of Human Anatomy** **3-Netter, F. (2019). Atlas of Human Anatomy (7th**	The sources mentioned above are sufficient
Electronic References, Websites **1-Drake R.L. (eds) (2019). Gray's Anatomy for Students. London: Elsevier.** **2-Netter, F. (2000). Grants Atlas of Human Anatomy** **3-Netter, F. (2019). Atlas of Human Anatomy (7th**	

Course Description Form

1. Course Name:
Histology I
2. Course Code:
3. Semester / Year:
Semester
4. Description Preparation Date:
8 April 2024
5. Available Attendance Forms:
Daily Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
60 / 3
7. Course administrator's name (mention all, if more than one name)
Name: Assist Prof. Dr. Hasan H. Saeid Email: dr.hassan@sawauniversity.edu.iq
8. Course Objectives

Course Objectives	**1. Histology is an essential tool for medical students.** **2. This study aims to introduce the student to the basic types of cells.** **3. Classification of these cells according to the study of the shape of the cells forming those tissues and the basic function of these cells, which form the various tissues and organs of the human body, by examining thin slices of tissue under the light of a microscope.**
9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard, and delivery 2- Demonstration (using the Atlas of Histology book and educational images using the lecture viewer in classrooms. 3- Interactive discussion 4- Self-education.

	5. Technology Integration: Utilize educational apps, online simulations, and virtual labs to provide interactive experiences and enhance understanding. 6. Multimedia Resources: Integrate videos, animations, and documentaries to supplement lectures and provide visual reinforcement.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	**Introduction and overview of methods used in histology, Classification of Histology, Tissue preparation**	Lectures, using the blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
2	2	knowledge	**Overview of Cell structure & types.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily and monthly) and scientific reports
3	2	knowledge	**Tissues: Concept and classifications of primary tissues**.	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
4	2	knowledge	**Epithelial tissue: Simple Ep. T. , Compound Ep. T.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
5	2	knowledge	**The glandular Tissues (The Glands)**.	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)

6	2	knowledge	**Connective and Supportive Tissue: Embryonic and adult C.T.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
7	2	knowledge	**Connective Tissue proper (General C.T.)**.	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
8	2	knowledge	**Cartilage, Histogenesis, Growth and repair of cartilage**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
9	2	knowledge	**Bone & Histogenesis of Bone**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
10	2	knowledge	**The Blood**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
11	2	knowledge	**The haemopoietic organ (bone marrow), Formation of blood cells**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
12	2	knowledge	**Muscular tissue**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports

13	2	knowledge	**Nervous tissue: Overview of nervous system (CNS & PNS)**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
14	2	knowledge	**Nervous system: the Nerve cells (neurons) and their classification**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
15	2	knowledge	**Supporting cells of nervous system**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports

10. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc., and according to the following:

- **40 annual pursuit grades, including:**

1. (10 first monthly exam + 10 second monthly exam + 5 marks for daily preparation and daily exams for the theoretical subject).
2. (5 first monthly exam + 5 second monthly exam + 5 marks for daily preparation, daily exams, and laboratory work for the practical subject).

- **60 marks for the final theoretical and practical exam, which includes:**

1. (20 marks for final practical exam).
2. (40 marks for final theoretical exam).

11. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. Jonquiere's, Basic Histology. 16th edition. Anthony L. Mescher. 2021. 2. Histology atext & atlas with correlated cell & molwcular biology, 5th edition. Michael H.Ross, Wojciech pawline. 2006. 3. Basic Histology, 10th edition. Jose Carneiro. 2002.

	4. Atlas of Human Histology, 12th edition. Mariano S. H. diFiore.
Main references (sources)	Same as above
Recommended books and references (scientific journals, reports…)	The sources mentioned above are sufficient.
Electronic References, Websites	All sites that contain an explanation of body tissues, YouTube, files, and presentations that were given to students. In addition to practical lessons, histological clips, and illustrative pictures of each tissue and organ in the body.

Course Description Form

1. Course Name:	
Histology II	
2. Course Code:	
3. Semester / Year:	
Semester	
4. Description Preparation Date:	
8 April 2024	
5. Available Attendance Forms:	
Daily Attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 / 3	
7. Course administrator's name (mention all, if more than one name)	
Name: Assist Prof. Dr. Hasan H. Saeid Email: dr.hassan@sawauniversity.edu.iq	
8. Course Objectives	
Course Objectives	**1. Histology is an essential tool for medical students.** **2. This study aims to introduce the student to the basic types of cells.** **3. Classification of these cells according to the study of the shape of the cells forming those tissues and the basic function of these cells, which form the various tissues and organs of the human body, by examining thin slices of tissue under the light of a microscope.**
9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard, and delivery 2- Demonstration (using the Atlas of Histology book and educational images using the lecture viewer in classrooms. 3- Interactive discussion 4- Self-education.

	5. Technology Integration: Utilize educational apps, online simulations, and virtual labs to provide interactive experiences and enhance understanding. 6. Multimedia Resources: Integrate videos, animations, and documentaries to supplement lectures and provide visual reinforcement.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	**Circulatory system**	Lectures, using the blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
2	2	knowledge	**Lymphoid system- Lymphatic vessels- Lymph**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily and monthly) and scientific reports
3	2	knowledge	**Lymphoid organs**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
4	2	knowledge	**Respiratory system**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
5	2	knowledge	**Digestive system/ Part one- Oral cavity**.	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)

6	2	knowledge	**Digestive system/ Part two- Gastrointestinal tracts**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
7	2	knowledge	**Digestive system/ Part three- Accessory Glands**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
8	2	knowledge	**Urinary System**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
9	2	knowledge	**Urinary System**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
10	2	knowledge	**Endocrine system**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
11	2	knowledge	**Endocrine system**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
12	2	knowledge	**Male reproductive system**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports

13	2	knowledge	**Female reproductive system**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
14	2	knowledge	**Sense organ**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
15	2	knowledge	**The integumentary system- Skin**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports

10. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc., and according to the following:

- **40 annual pursuit grades, including:**

1. (10 first monthly exam + 10 second monthly exam + 5 marks for daily preparation and daily exams for the theoretical subject).
2. (5 first monthly exam + 5 second monthly exam + 5 marks for daily preparation, daily exams, and laboratory work for the practical subject).

- **60 marks for the final theoretical and practical exam, which includes:**

1. (20 marks for final practical exam).
2. (40 marks for final theoretical exam).

11. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. Jonquiere's, Basic Histology. 16th edition. Anthony L. Mescher. 2021. 2. Histology atext & atlas with correlated cell & molwcular biology, 5th edition. Michael H.Ross, Wojciech pawline. 2006. 3. Basic Histology, 10th edition. Jose Carneiro. 2002.

	4. Atlas of Human Histology, 12th edition. Mariano S. H. diFiore.
Main references (sources)	Same as above
Recommended books and references (scientific journals, reports…)	The sources mentioned above are sufficient.
Electronic References, Websites	All sites that contain an explanation of body tissues, YouTube, files, and presentations that were given to students. In addition to practical lessons, histological clips, and illustrative pictures of each tissue and organ in the body.

Course Description Form

1. Course Name:
Medical Bacteriology I
2. Course Code:
3. Semester / Year:
Semester
4. Description Preparation Date:
8 April 2024
5. Available Attendance Forms:
Daily Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
60 / 4
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Mueen H. Hantoosh Email: Mueen.hasan84@gmail.com
8. Course Objectives

Course Objectives	**1. Determine the structure and function of bacteria.** **2. Explaining bacterial physiology and metabolism.** **3. Differentiating between types of bacteria according to shapes and pigmentation.** **4. Study the virulence factors possessed by bacteria, which enable them to cause bacterial infection events.** **5. Identify the epidemiology and symptoms of bacterial diseases.** **6. How to control these diseases.**
9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard, and delivery 2- Demonstration (using the Atlas of Histology book and educational images using the lecture viewer in classrooms.

	3- Interactive discussion 4- Self-education. 5. Technology Integration: Utilize educational apps, online simulations, and virtual labs to provide interactive experiences and enhance understanding. 6. Multimedia Resources: Integrate videos, animations, and documentaries to supplement lectures and provide visual reinforcement.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	**1. Introduction** **2. Classification of bacteria**.	Lectures, using the blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
2	2	knowledge	**Structure and function of bacterial components.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily and monthly) and scientific reports
3	2	knowledge	**Growth and death of bacteria.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
4	2	knowledge	**Culturing of bacteria and media types**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)

5	2	knowledge	**1. Bacterial Physiology (Bacterial metabolism)** **2. Nutrient cycles and regulation).**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
6	2	knowledge	**1. Bacterial genetics** **2. Genetic material.** **3. Plasmids, replication, mutation and genetic recombination.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
7	2	knowledge	**1. Microbial virulence factors and pathogenesis of bacterial infection.** **2. Microflora .**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
8	2	knowledge	**Chemotherapy and antibiotic resistance**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
9	2	knowledge	**Vaccination**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
10	2	knowledge	**Gram positive cocci: Staphylococcus .**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
11	2	knowledge	**Gram positive cocci: Streptococcus and Enterococcus.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using	oral and written examinations (daily)

				data show	
12	2	knowledge	**Gram positive spore forming bacilli (Clostridium)**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
13	2	knowledge	**Gram positive spore forming bacilli (Bacillus)**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
14	2	knowledge	**Gram positive non spore forming bacilli (Listeria)**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
15	2	knowledge	**Gram positive non spore forming bacilli (Corynebacterium)**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports

10. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc., and according to the following:

- **40 annual pursuit grades, including:**

1. (10 first monthly exam + 10 second monthly exam + 5 marks for daily preparation and daily exams for the theoretical subject).
2. (5 first monthly exam + 5 second monthly exam + 5 marks for daily preparation, daily exams, and laboratory work for the practical subject).

• **60 marks for the final theoretical and practical exam, which includes:** 1. (20 marks for final practical exam). 2. (40 marks for final theoretical exam).	
11. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Medical Microbiology, 27th edition. ISBN: 9780-0-71-82498-9 (Jawetz Melnick & Adelbergs).
Main references (sources)	Same as above
Recommended books and references (scientific journals, reports…)	Review of Medical Microbiology and Immunology, Fourteenth Edition. ISBN 978-0-07-184574-8 (Warren Levinson).
Electronic References, Websites	All sites that contain an explanation of body tissues, YouTube, files, and presentations that were given to students. In addition to practical lessons, histological clips, and illustrative pictures of each tissue and organ in the body.

Course Description Form

1. Course Name:
Medical Bacteriology II
2. Course Code:
3. Semester / Year:
Semester
4. Description Preparation Date:
8 April 2024
5. Available Attendance Forms:
Daily Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
60 / 4
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Mueen H. Hantoosh Email: Mueen.hasan84@gmail.com
8. Course Objectives

Course Objectives	**1. Identify the forms and diseases caused by pathogenic bacteria in living organisms.** **2. The importance of the types of pathogenic bacteria and the diseases they cause.** **3. Differentiating between types of bacteria according to shapes and pigmentation.** **4. Study the virulence factors possessed by bacteria, which enable them to cause bacterial infection events.** **5. Identify the epidemiology and symptoms of bacterial diseases.** **6. How to control these diseases**

9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard, and delivery 2- Demonstration (using the Atlas of Histology book and educational images using the lecture viewer in classrooms.

	3- Interactive discussion 4- Self-education. 5. Technology Integration: Utilize educational apps, online simulations, and virtual labs to provide interactive experiences and enhance understanding. 6. Multimedia Resources: Integrate videos, animations, and documentaries to supplement lectures and provide visual reinforcement.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	**Gram negative cocci: Neisseria**	Lectures, using the blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
2	2	knowledge	**Enteric Gram-negative rods: E. coli.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily and monthly) and scientific reports
3	2	knowledge	**Enteric Gram-negative rods: Klebsiella, Proteus.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
4	2	knowledge	**Enteric Gram-negative rods: Klebsiella, Proteus.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)

5	2	knowledge	**Enteric Gram-negative rods: Shigella and salmonella.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
6	2	knowledge	**Yersinia.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
7	2	knowledge	**Vibrio.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
8	2	knowledge	**Campylobacter.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
9	2	knowledge	**Helicobacter.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
10	2	knowledge	**Haemophilus.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
11	2	knowledge	**Bordetella and Brucella.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using	oral and written examinations (daily)

				data show	
12	2	knowledge	**Chlamydia.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
13	2	knowledge	**Spirochaetes.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
14	2	knowledge	**Mycobacterium.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
15	2	knowledge	**Mycoplasma and Rickettsia.**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports

10. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc., and according to the following:

- **40 annual pursuit grades, including:**

1. (10 first monthly exam + 10 second monthly exam + 5 marks for daily preparation and daily exams for the theoretical subject).
2. (5 first monthly exam + 5 second monthly exam + 5 marks for daily preparation, daily exams, and laboratory work for the practical subject).

• **60 marks for the final theoretical and practical exam, which includes:** 1. (20 marks for final practical exam). 2. (40 marks for final theoretical exam).	
11. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Medical Microbiology, 27th edition. ISBN: 9780-0-71-82498-9 (Jawetz Melnick & Adelbergs).
Main references (sources)	Same as above
Recommended books and references (scientific journals, reports…)	Review of Medical Microbiology and Immunology, Fourteenth Edition. ISBN 978-0-07-184574-8 (Warren Levinson).
Electronic References, Websites	All sites that contain an explanation of body tissues, YouTube, files, and presentations that were given to students. In addition to practical lessons, histological clips, and illustrative pictures of each tissue and organ in the body.

Course Description Form

1. Course Name:
Molecular biology
2. Course Code:
3. Semester / Year:
Semester
4. Description Preparation Date:
5/4/2024
5. Available Attendance Forms:
Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
120/3
7. Course administrator's name (mention all, if more than one name)
Name: Noor Mohammad Email:
8. Course Objectives

Course Objectives
1. Urging students to solve intellectual questions. 2. Conduct intellectual competitions related to scientific material. 3. Putting students in a scientific and practical environment related to the subject of professional behavior to derive diagnoses from the data. 4. Urging students to compete with each other to achieve advanced positions within the acade subject to obtain grades and moral awards.

9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard, and delivery 2- Demonstration (using diagrams and educational pictures using the datashow) 3- Homework assignments 4- Daily exams maps, or peer evaluations to gauge student understanding and provide targe feedback for improvement.

10. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation method

		Outcomes			
1	2	knowledge	**Introduction to Molecu Biology applecations in Med laboratory Technic specialization**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral written exams(daily monthly) and scientific reports
2	2	knowledge	**Structure of DNA**	= = = = = = =	= = = = = = =
3	2	knowledge	**Primary structure & second structure**	= = = = = = =	= = = = = = =
5	2	knowledge	**1-Tertiary structure and chromosome packing in human cells 2-structure of ribonuc acid(RNA)**	= = = = = = =	= = = = = = =
6	2	knowledge	DNA replication & replication models	= = = = = = =	= = = = = = =
7	2	knowledge	**DNA transcriptional and l transcriptional modification**	= = = = = = =	= = = = = = =
8	2	knowledge	**Translation and Post translation modifications and protein synthesis .**	= = = = = = =	= = = = = = =
9	2	knowledge	**Gene expression, genetic code and application of genetic code**	= = = = = = =	= = = = = = =
10	2	knowledge	**DNA damage, type and repair systems and mechanisms**	= = = = = = =	= = = = = = =
11	2	knowledge	**DNA mutations**	= = = = = = =	= = = = = = =

12	2	knowledge	Chromosomal aberrations	= = = = = = =	= = = = = = =
13	2	knowledge	Causes of gene mutation	= = = = = = =	= = = = = = =
14	2	knowledge	**Programmed cell death, telomere and teiomerase association with carcinogenesis**	= = = = = = =	= = = = = = =
15	2	knowledge	**DNA technology ,Restriction enzyme**	= = = = = = =	= = = = = = =

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.
20 marks for the first semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks, 2.5 marks and attendance)
Second semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks 2.5 marks and attendance)
Final exam M 60 (35 theoretical + 25 practical)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Not found
Main references (sources)	
Recommended books and references (scientific journals, reports…)	1-molecular biology

Course Description Form

1. Course Name: Clinical biochemistry I

2. Course Code:

3. Semester / Year: 2nd

4. Description Preparation Date: 14/4/2024

5. Available Attendance Forms: daily attendance

6. Number of Credit Hours (90) / Number of Units (60)

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

Name: Dr. Abdulrhman Yuser Khalifa
Email: abdulrhmanyuser86@gmail.com

8. Course Objectives

Course Objectives	• **Giving an idea and basic information in mod chemistry and developing the student's skill a skill in pathological analyses.** • **That the student is able to eliminate all the det as they are prepared for processing.**

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	٢	Knowledge	Introduction of biochemistry, Metabolism	Know and use the lecture Blackboard and	Theoretical, practical/oral and written

			(Anabolism & Catabolism), Production of Energy	recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	exams (daily and monthly) and scientific reports
2,3	٤	Knowledge	Biochemistry and metabolism in illness and recovery. Obesity. Stress. Exercises.	Know and use the lecture Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
4,5	٤	Knowledge	Biochemistry nutrition. dietary. Its direct effect with maintain health and preventive medicine.	Know and use the lecture Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
6,7	٤	Knowledge	Biochemistry has A Biochemical Basis in all diseases and sciences	Know and use the lecture Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
8	2	Knowledge	Biochemistry at Water PH, acid-base balance	Know and use the lecture Blackboard and recitation Demo (Use diagrams and pictures	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports

				Educational using Datashow) Interactive discussion self education Open rows on Google class room	
٩	٢	Knowledge	**Biochemistry and electrolytes**	Know and use the lecture Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
10,11	٤	Knowledge	Metabolism of Carbohydrate: (١Mono Saccharides, Disaccharides and polysaccharides (٢pentose phosphate pathway (٣Glucosamine lycans. (٤proteoglycans and glycoproteins	Know and use the lecture Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
١٢	٢	Knowledge	ATP Synthesis The Role of ATP in Carbohydrate Reactions	Know and use the lecture Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
13,14,15	٦	Knowledge	Lipids. Biosynthesis, oxidation and Types of Lipids. Metabolism of glycerol	Know and use the lecture Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports

				self education Open rows on Google class room	

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.
40 annual endeavor grades, consisting of the first month grade of 20 [theoretical 12.5 (first 10 monthly exam + 1.5 grades + 1 attendance) and the practical grade 7.5 (5 monthly exams + 2.5 grades and reports)] and the same for the second month.
Final score out of 60 (25 marks final practical exam + 35 marks final theoretical exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	1- Harper's Illustrated Biochemistry. 2- Clinical Biochemistry Lecture notes.
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name: Clinical biochemistry II

2. Course Code: 2

3. Semester / Year: 2nd

4. Description Preparation Date: 14/4/2024

5. Available Attendance Forms: daily attendance

6. Number of Credit Hours (90) / Number of Units (60)

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

Name: Dr. Abdulrhman Yuser Khalifa
Email: abdulrhmanyuser86@gmail.com

8. Course Objectives

Course Objectives	• **Giving an idea and basic information in mod chemistry and developing the student's skill a skill in pathological analyses.** • **That the student is able to eliminate all the det as they are prepared for processing.**

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1,2,3	٦	Knowledge	Hormones Classification functions, Metabolism.	Know and use the lecture	Theoretical, practical/oral and written

			(Its receptors and types of receptors and degradation)	Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	exams (daily and monthly) and scientific reports
4,5,6	٦	Knowledge	Proteins: Structures and Functions of proteins and enzyme. Amino acids peptides. Structure and metabolism of proteins (Globular proteins Fibrous proteins enzymes Myoglobin and hemoglobin)	Know and use the lecture Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
7,8	٤	Knowledge	Metabolism of purine and pyrimidine	Know and use the lecture Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
9,10	٤	Knowledge	Vitamins types and Biochemical reactions.	Know and use the lecture Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
11,12,13	6	Knowledge	Minerals: Definition, Classification Dietary sources● Functions● Absorption, synthesis, metabolism, storage and excretion.	Know and use the lecture Blackboard and recitation Demo (Use diagrams	Theoretical, practical/oral and written exams (daily and monthly) and scientific

				and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	reports
14,15	٤	Knowledge	**Metabolism of Nucleotides Contents● Purine nucleotides Metabolism● Denovo synthesis of purine nucleotides ● Salvage pathways of purine nucleotides● Catabolism of purine nucleotides. Pyrimidine nucleotide Metabolism. Denovo synthesis of pyrimidine nucleotides. Salvage pathways of pyrimidine nucleotides. Catabolism of pyrimidine nucleotides.**	Know and use the lecture Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussion self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.
40 annual endeavor grades, consisting of the first month grade of 20 [theoretical 12.5 (first 10 monthly exam + 1.5 grades + 1 attendance) and the practical grade 7.5 (5 monthly exams + 2.5 grades and reports)] and the same for the second month.
Final score out of 60 (25 marks final practical exam + 35 marks final theoretical exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	1- Harper's Illustrated Biochemistry. 2- Clinical Biochemistry Lecture notes.
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Parasitology
2. Course Code:
3. Semester / Year:
Semester 1
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms
: Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total):
2 hours (theoretical) + 2 hours (practical) / 6 units
7. Course administrator's name (mention all, if more than one name)
Name: Assist. Pro.dr. Hasan Raheem Khudhur Email: hasan.raheem.k@sawauniversity.edu.iq
8. Course Objectives

Course Objectives	• 1- Identify the external appearance, life cycle, pathogenicity, and laboratory. Diagnose all parasites of medical importance. • 2- Identify the epidemiology of parasites, with special reference to those endemic in Iraq.
9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard and presentation 2- Demonstration (using graphs, pictures and educational films using a data projector) 3- Interactive discussion 4- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	knowledge	Terms and definitions in parasitology.	-Lecture, use of the blackboard and presentation -Demonstration (using graphs, pictures and educational films using a data projector) -Interactive discussion -Self-education - Open educational classes using the Classroom platform	Theoretical, practical/oral and written examinations (daily, monthly and midterm exam) and scientific reports
2	4	knowledge	Introduction to protozoology.	====	====
3	4	knowledge	Sacodina, Entamoeba histolytica.	====	====
4	4	knowledge	Entamoeba coli	====	====
5	4	knowledge	Small amoeba: Endolimax nana Iodamoeba butschlii.	====	====
6	4	knowledge	Mastigophora,	====	====
7	4	knowledge	Trichomonas.	====	====
8	4	knowledge	Heamo- flagellates(blood & tissue flagellates),	====	====
9	4	knowledge	Genus Trypanosoma,	====	====
10	4	knowledge	Ciliophora: Blantidium coli	====	====
11	4	knowledge	Genus plasmodium.	====	====
12	4	knowledge	P.falciparum, P. vivax, P ovale, P. malarae	====	====
13	4	knowledge	General discussion on malarial parastes	====	====
14	4	knowledge	Isopora, .	====	====
15	4	knowledge	Cryptosporidiadse Genus cryptosporidium,	====	====

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

40 marks (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 5 marks for daily preparation and daily tests + 5 marks for the first practical exam + 5 marks for the second monthly practical exam)
60 marks (20 marks final practical exam + 40 marks final theoretical exam)

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	not available
Main references (sources)	Paniker's Textbook of Medical Parasitology Butel, Janet Mc Stephen ,2015
Electronic References, Websites	Websites available on Google Chrome

Course Description Form

1. Course Name:
Parasitology
2. Course Code:
3. Semester / Year:
Semester 2
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms
: Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total):
2 hours (theoretical) + 2 hours (practical) / 6 units
7. Course administrator's name (mention all, if more than one name)
Name: Assist. Pro.dr. Hasan Raheem Khudhur Email: hasan.raheem.k@sawauniversity.edu.iq
8. Course Objectives

Course Objectives	• 1- Identify the external appearance, life cycle, pathogenicity, and laboratory. Diagnose all parasites of medical importance. • 2- Identify the epidemiology of parasites, with special reference to those endemic in Iraq.
9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard and presentation 2- Demonstration (using graphs, pictures and educational films using a data projector) 3- Interactive discussion 4- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	knowledge	Platyhelminth:	-Lecture, use of the blackboard and presentation -Demonstration (using graphs, pictures and educational films using a data projector) -Interactive discussion -Self-education - Open educational classes using the Classroom platform	Theoretical, practical/oral and written examinations (daily, monthly and midterm exam) and scientific reports
2	4	knowledge	Hymenolepis nana, Hymenolepis diminuta. Diplidium caninum, Diphyllobathrium latum	====	====
3	4	knowledge	Echinococcus granulosus. Echinocuccus multilocularis.	====	====
4	4	knowledge	Class Trematoda:	====	====
5	4	knowledge	Fasciula hepatica .	====	====
6	4	knowledge	Ascaris lambricoides Enterobius vermicularis.	====	====
7	4	knowledge	Trichuris trichura. Trichenala spiralis.	====	====
8	4	knowledge	Strogyloides stercoralis. .	====	====
9	4	knowledge	Ancylostoma duadenale ,Necator Americans (	====	====
10	4	knowledge	The filariae:	====	====
11	4	knowledge	Sand fly, Black fly	====	====
12	4	knowledge	Black fly	====	====
13	4	knowledge	Mosqiutoes	====	====
14	4	knowledge	Ticks & Mites	====	====
15	4	knowledge	Fleas	====	====

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

40 marks (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 5 marks for daily preparation and daily tests + 5 marks for the first practical exam + 5 marks for the second monthly practical exam)
60 marks (20 marks final practical exam + 40 marks final theoretical exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	not available

Main references (sources)	Paniker's Textbook of Medical Parasitology Butel, Janet Mc Stephen ,2015
Electronic References, Websites	Websites available on Google Chrome

Course Description Form

1. Course Name:
physiology and pathophysiology
2. Course Code:
3. Semester / Year:
Second Semester
4. Description Preparation Date:
5/4/2024
5. Available Attendance Forms:
Daily
6. Number of Credit Hours (Total) / Number of Units (Total)
160 Hours
7. Course administrator's name (mention all, if more than one name)
Name: Suzan.Nasr.Muhana.Mariam Email: d.suzanmariam@gmail.com
8. Course Objectives

1- It includes a physiological study of the various organs of the normal human body in pathological cases and conditions. 2- Using this knowledge to understand, detect, and confirm diseases with appropriate pathological analyses	

9. Teaching and Learning Strategies	
Strategy	**Course Objectives:** **A- Cognitive objectives**: 1- Physiology of the respiratory system 2- The physical foundations of gas exchange 3- Physiology of the urinary system 4- Renal filtration and glomerular filtration 5- Physiology of the endocrine system 6- The pituitary gland and the hypothalamus 7- Physiology of metabolism and energy balance 8- The body's energy needs 9- Physiology of excitable tissues 10- Physiology of muscle tissue 11- Physiology of the autonomic nervous system 12- Receptors of the autonomic nervous system

	13- Physiology of the nervous system 14- Physiology of sensation 15- Physiology of pain **B- Skills objectives of the course** 1- Learn how to measure lung function (learning on spirometer and oximeter) 2- Identifying lung auscultation, chest percussion, its pathological signs, and chest physical therapy 3- Learn how to conduct a urine examination 4- Learn how to perform a urinary sediment examination and examine it under a microscope 5- Learn how to dissect a sheep's heart and see its cavities 6- Identify the nature of the heart and the effects of stimulants and inhibitors on it 7- Determine the body's basic energy needs and calculate calories 8- Identify the weight and obesity table and its scale 9- Learn to dissect the sheep's brain and identify its parts 10- Learn how to perform frog reflexes 11- Identify the functions of cranial nerves and diagnose their damage 12- Identify the receptors for the sense of touch and pressure and see them under an op microscope 13- Identify the sensory distribution of touch and pressure in the skin 14- Learn how to determine your blood type 15- Learn how to determine the sedimentation rate

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical/ 2Practical	knowledge	Respiratory System	Lecture, use of the blackboard, and delivery Demo (Use diagrams and pictures Educational using Data show) Educational videos Interactive discussion self education Search references and the	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports

				Internet	
2	2Theoretical/ 2Practical	knowledge	Physical foundations of gas exchanges	Same above	Same above
3	2Theoretical/ 2Practical	knowledge	**Urinary System**	Same above	Same above
4	2Theoretical/ 2Practical	knowledge	Renal filtration and glomerular filtration	Same above	Same above
5	2Theoretical/ 2Practical	knowledge	Endocrine System.	Same above	Same above
6	2Theoretical/ 2Practical	knowledge	Pituitary gland and hypothalamus	Same above	Same above
7	2Theoretical/ 2Practical	knowledge	Metabolism and energy balance	Same above	Same above
8	2Theoretical/ 2Practical	knowledge	The body's energy needs	Same above	Same above
9	2Theoretical/ 2Practical	knowledge	excitable tissues	Same above	Same above
10	2Theoretical/ 2Practical	knowledge	muscle tissues	Same above	Same above
11	2Theoretical/ 2Practical	knowledge	The autonomic Nervous System	Same above	Same above
12	2Theoretical/ 2Practical	knowledge	The receptors of autonomic nervous system	Same above	Same above

	2Theoretical/ 2Practical	knowledge	NervousSystem	Same above	Same above
	2Theoretical/ 2Practical	knowledge	Physiology of sensation	Same above	Same above
	2Theoretical/ 2Practical	knowledge	Physiology of pain	Same above	Same above

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

Learning and Teaching Resources :

1- Medical physiology for preparatory students in medical colleges in Syria
2-Text book and medical physiology 11th edition

3-Human Physiology 1 edition churchill livingstone

4- The journal of physiology

5-Review of medical physiology 22 edition

12.

Required textbooks (curricular books, if any)	Medical physiology for preparatory stude in medical colleges in Syria
Main references (sources)	Guyton and Hall 1997(Human physiology a Mechanisms of Disease)6 edition Saunders
Recommended books and references (scientific journals, reports…)	The sources mentioned above are sufficient
Electronic References, Websites	All sites that contain the C++ programming language with YouTube, files uploaded to the e-classroom, presentations uploaded to the e-classroom, in addition to electronic interactive lessons, in addition to the e-classroom and files uploaded to the e-

	classroom and YouTube subject.

Course Description Form

1. Course Name:
physiology and pathophysiology
2. Course Code:
3. Semester / Year:
First Semester
4. Description Preparation Date:
5/4/2024
5. Available Attendance Forms:
Daily
6. Number of Credit Hours (Total) / Number of Units (Total)
160 Hours
7. Course administrator's name (mention all, if more than one name)
Name: Suzan.Nasr.Muhana.Mariam Email: d.suzanmariam@gmail.com

8. Course Objectives	
1- It includes a physiological study of the various organs of the normal human body in pathological cases and conditions. 2- Using this knowledge to understand, detect, and confirm diseases with appropriate pathological analyses	

9. Teaching and Learning Strategies	
Strategy	**Course Objectives:** **A- Cognitive objectives**: 1- Physiology of the respiratory system 2- The physical foundations of gas exchange 3- Physiology of the urinary system 4- Renal filtration and glomerular filtration 5- Physiology of the endocrine system 6- The pituitary gland and the hypothalamus 7- Physiology of metabolism and energy balance 8- The body's energy needs 9- Physiology of excitable tissues 10- Physiology of muscle tissue 11- Physiology of the autonomic nervous system 12- Receptors of the autonomic nervous system 13- Physiology of the nervous system

	14- Physiology of sensation 15- Physiology of pain **B- Skills objectives of the course** 1- Learn how to measure lung function (learning on spirometer and oximeter) 2- Identifying lung auscultation, chest percussion, its pathological signs, and chest physical therapy 3- Learn how to conduct a urine examination 4- Learn how to perform a urinary sediment examination and examine it under a microscope 5- Learn how to dissect a sheep's heart and see its cavities 6- Identify the nature of the heart and the effects of stimulants and inhibitors on it 7- Determine the body's basic energy needs and calculate calories 8- Identify the weight and obesity table and its scale 9- Learn to dissect the sheep's brain and identify its parts 10- Learn how to perform frog reflexes 11- Identify the functions of cranial nerves and diagnose their damage 12- Identify the receptors for the sense of touch and pressure and see them under an op microscope 13- Identify the sensory distribution of touch and pressure in the skin 14- Learn how to determine your blood type 15- Learn how to determine the sedimentation rate

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical/ 2Practical	knowledge	Terms and definitions in physiology	Lecture, use of the blackboard, and delivery Demo (Use diagrams and pictures Educational using Data show) Educational videos Interactive discussion self education Search references and the	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports

				Internet	
2	2Theoretical/ 2Practical	knowledge	Introduction to physiology	Same above	Same above
3	2Theoretical/ 2Practical	knowledge	Mechanisms for maintaining balance and body fluids	Same above	Same above
4	2Theoretical/ 2Practical	knowledge	Blood physiology	Same above	Same above
5	2Theoretical/ 2Practical	knowledge	. Blood physiology, Erythrocytes	Same above	Same above
6	2Theoretical/ 2Practical	knowledge	Blood physiology, Leukocytes and platelets	Same above	Same above
7	2Theoretical/ 2Practical	knowledge	Hemostasis	Same above	Same above
8	2Theoretical/ 2Practical	knowledge	Heart physiology	Same above	Same above
9	2Theoretical/ 2Practical	knowledge	Electrocardiogram	Same above	Same above
10	2Theoretical/ 2Practical	knowledge	Circulatory **System**	Same above	Same above
11	2Theoretical/ 2Practical	knowledge	Atrial pressure	Same above	Same above
12	2Theoretical/ 2Practical	knowledge	digestive system	Same above	Same above
13	2Theoretical/ 2Practical	knowledge	Secretory function of the digestive system	Same above	Same above

	2Theoretical/ 2Practical	knowledge	Accessory glands to the digestive system	Same above	Same above
	2Theoretical/ 2Practical	knowledge	Digestive and absorption function of the digestive system	Same above	Same above

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

Learning and Teaching Resources :

1- Medical physiology for preparatory students in medical colleges in Syria
2-Text book and medical physiology 11th edition

3-Human Physiology 1 edition churchill livingstone

4- The journal of physiology

5-Review of medical physiology 22 edition

12.

Required textbooks (curricular books, if any)	Medical physiology for preparatory stude in medical colleges in Syria
Main references (sources)	Guyton and Hall 1997(Human physiology a Mechanisms of Disease)6 edition Saunders
Recommended books and references (scientific journals, reports…)	The sources mentioned above are sufficient
Electronic References, Websites	All sites that contain the C++ programming language with YouTube, files uploaded to the e-classroom, presentations uploaded to the e-classroom, in addition to electronic

	interactive lessons, in addition to the e-classroom and files uploaded to the e-classroom and YouTube subject.

Course Description Form

1. Course Name:
Biostatic
2. Course Code:
3. Semester / Year:
Semester
4. Description Preparation Date:
4/4/2024
5. Available Attendance Forms:
Daily
6. Number of Credit Hours (Total) / Number of Units (Total)
7. Course administrator's name (mention all, if more than one name)
Name: Email:
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
١	٢	**Knowledge**	**Definition of Biostatistics, types of data, types of Variables and Sources of data.**	**Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio**	**Theoretical, practical/oral and written exams (daily and monthly) and scientific reports**

				self education Open rows on Google class room	
٢	٢	Knowledge	Methods of data collection and sampling types.	Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
٣	٢	Knowledge	Numerical methods of presentation of data.	Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
٤	٢	Knowledge	Graphical methods of presentation of data	Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
٥	٢	Knowledge	Mathematical methods of presentation of data:(l):Measures of Central Tendency (Arithmetic Mean, Median ,Mode).(2): Measures of Non-Central location(Percentiles, Quartiles).	Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
٦	٢	Knowledge	Mathematical methods of presentation of data:(l):Measures of Central Tendency (Arithmetic Mean, Median ,Mode).(2): Measures of Non-Central location(Percentiles, Quartiles).	Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports

٧	٢	Knowledge	Mathematical methods of presentation of data:(l):Measures of Central Tendency (Arithmetic Mean, Median ,Mode).(2): Measures of Non-Central location(Percentiles, Quartiles).	Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
٨	٢	Knowledge	Measures of Dispersion(Range, Variance, Standard Deviation) of ungroup and group data. Coefficient of Variation, Standard Errs	Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
٩	٢	Knowledge	Measures of Dispersion(Range, Variance, Standard Deviation) of ungroup and group data. Coefficient of Variation, Standard Errs	Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
١٠	٢	Knowledge	Percentiles, Quartiles and Interquart ile Rang.	Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
١١	٢	Knowledge	Percentiles, Quartiles and Interquart ile Rang.	Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room	Theoretical, practical/oral and written exams (daily and monthly) and scientific reports
١٢	٢	Knowledge	Moments, Skewness measurement and	Lecture and use Blackboard and recitation Demo (Use diagrams and pictures	Theoretical, practical/oral and written exams

			Kurtosis Measurement.	**Educational using Datashow) Interactive discussio self education Open rows on Google class room**	**(daily and monthly) and scientific reports**
١٣	٢	**Knowledge**	**Moments, Skewness measurement and Kurtosis Measurement.**	**Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room**	**Theoretical, practical/oral and written exams (daily and monthly) and scientific reports**
١٤	٢	**Knowledge**	**Application of Elementary Probability Theory.**	**Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room**	**Theoretical, practical/oral and written exams (daily and monthly) and scientific reports**
١٥	٢	**Knowledge**	**Application of Elementary Probability Theory.**	**Lecture and use Blackboard and recitation Demo (Use diagrams and pictures Educational using Datashow) Interactive discussio self education Open rows on Google class room**	**Theoretical, practical/oral and written exams (daily and monthly) and scientific reports**

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)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	

Course Description Form

1. Course Name:
Human genetics
2. Course Code:
3. Semester / Year:
Year
4. Description Preparation Date:
5/4/2024
5. Available Attendance Forms:
Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
120/3
7. Course administrator's name (mention all, if more than one name)
Name: mohammed ali jawad Email: mohammedali@sawauniversity.edu.iq
8. Course Objectives

Course Objectives

understanding the principles of inheritance...

- genetic variation.....
- molecular genetics, and their implications for human health and disease
- Students may also learn about genetic disorders, genetic testing, gene therapy, and

ethical considerations in genetics research and applications.

9. Teaching and Learning Strategies	
Strategy	Teaching human genetics can be engaging and effective with various strategies: 1. Interactive Activities: Incorporate hands-on activities like Punnett square simulations, genetic pedigree analysis, or DNA extraction labs to make concepts tangible. 2. Visual Aids: Use diagrams, charts, and models to illustrate genetic concepts such as Pun squares, pedigrees, and DNA structure. 3. Case Studies: Present real-life examples of genetic disorders or traits to contextualize learning and highlight the relevance of genetics in everyday life. 4. Technology Integration: Utilize educational apps, online simulations, and virtual labs to provide interactive experiences and enhance understanding. 5. Group Discussions: Encourage students to discuss and analyze genetic concepts in group

	fostering collaboration and deeper understanding through peer interaction. 6. Multimedia Resources: Integrate videos, animations, and documentaries to supplement lectures and provide visual reinforcement of genetic principles. 7. Problem-Based Learning: Present students with genetics-related problems or scenarios, prompting critical thinking and application of genetic principles to solve real-world issues. 8. Active Learning Strategies: Incorporate active learning techniques such as think-pair-sha concept mapping, or flipped classroom approaches to promote engagement and deeper understanding. 9. Differentiated Instruction: Recognize diverse learning styles and adapt teaching methods accordingly, providing varied opportunities for students to grasp genetic concepts. 10. Assessment for Learning: Implement formative assessments like quizzes, concept maps peer evaluations to gauge student understanding and provide targeted feedback improvement.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	Cell division.	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral written exams(daily monthly) and scientific reports
2	2	knowledge	mitosis	= = = = = = =	= = = = = = =
3	2	knowledge	meiosis.	= = = = = = =	= = = = = = =
5	2	knowledge	The chromosome History-structure num karyotyping	= = = = = = =	= = = = = = =
6	2	knowledge	The chromosome History-structure number karyotyping	= = = = = = =	= = = = = = =
7	2	knowledge	The chromosomal abnormalities.	= = = = = = =	= = = = = = =

8	2	knowledge	The chromosomal abnormalities	= = = = = = =	= = = = = = =
9	2	knowledge	The chromosomal abnormalities	= = = = = = =	= = = = = = =
10	2	knowledge	Genetics disease due chromosomal abnormalities	= = = = = = =	= = = = = = =
11	2	knowledge	Genetics disease due chromosomal abnormalities	= = = = = = =	= = = = = = =
12	2	knowledge	Patter of inheritance mendel's laws	= = = = = = =	= = = = = = =
13	2	knowledge	Patter of inheritance mendel's laws	= = = = = = =	= = = = = = =
14	2	knowledge	Dominant inheritance	= = = = = = =	= = = = = = =
15	2	knowledge	Recessive inheritance	= = = = = = =	= = = = = = =
16	2	knowledge	Another type of inheitance	= = = = = = =	= = = = = = =

17	2	knowledge	The genetics basis of sex x-linked inheritance-y linked inheritance	= = = = = = =	= = = = = = =
18	2	knowledge	The genetics basis of sex x-linked inheritance-y linked inheritance	= = = = = = =	= = = = = = =
19	2	knowledge	Sex influenced trait Sex limited genes	= = = = = = =	= = = = = = =
20	2	knowledge	Mutation- type of mutations-the genetics basis of mutation	= = = = = = =	= = = = = = =
21	2	knowledge	Mutation- type of mutations-the genetics basis of mutation	= = = = = = =	= = = = = = =
22	2	knowledge	Mutagens –carcinogenic in the enviroment .	= = = = = = =	= = = = = = =
23	2	knowledge	The genetics basis of cancer & genetics	= = = = = = =	= = = = = = =
24	2	knowledge	The genetics basis of cancer & genetics	= = = = = = =	= = = = = = =
25	2	knowledge	Chromosomes and cancer	= = = = = = =	= = = = = = =

26	2	knowledge	Oncogenes	= = = = = = =	= = = = = = =
27	2	knowledge	Suppressor cati-oncogenes	= = = = = = =	= = = = = = =
28	2	knowledge	Family pedigree, symbols, determination the type of inheretance	= = = = = = =	= = = = = = =
29	2	knowledge	Prenatal dignosis &genetics counseling . Introduction typing of prenatal diagnosis	= = = = = = =	= = = = = = =
30	2	knowledge	Genetics conunselling	= = = = = = =	= = = = = = =

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.
20 marks for the first semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks, 2.5 marks and attendance)
Second semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks 2.5 marks and attendance)
Final exam M 60 (35 theoretical + 25 practical)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Not found
Main references (sources)	
Recommended books and references (scientific journals, reports…)	1-Genetics for dummies 2- genetics conceptual

Course Description Form

1. Course Name: **histopathology**

2. Course Code:

3. Semester / Year: first & second / 2023-2024

4. Description Preparation Date: 4/4/2024

5. Available Attendance Forms: Daily

6. Number of Credit Hours (Total) / Number of Units (Total) 150 hr.

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

Name:
Email:

8. Course Objectives

Course Objectives	• **Histopathology is the diagnosis and study of diseases of the tissues, and involves examining tissues and/or cells under a microscope** • **A histopathologist can view potentially cancerous or atypical tissues and aid other medical specialists in making diagnoses and assessing the effectiveness of treatments.** • **Basic laboratory tests (clinical and chemical laboratory tests).**

9. Teaching and Learning Strategies

Strategy	Books, manuals and practical application

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	٢	**Introduction**	**troduction, cell constituents**	Theoretical	Tests
2	٢	**Inflammation**	**nflammation, Repair & generation Acute Inflammation**	Theoretical	Tests
3	٢	**Inflammation**	**Chronic Inflammation**	Theoretical	Tests
4	٢	**Repair**	**epair, healing & Regeneration**	Theoretical	Tests
5	٢	Rettrograde	trograde, changes, Degeneration	Theoretical	Tests
6	٢	**Necrosis**	**ropphy Necrosis, loudy swelling**	Theoretical	Tests
7	٢	**Gangrene**	**Gangrene**	Theoretical	Tests
8	٢	**cancer**	**riteria used for ytopathological gnosis of cancer**	Theoretical	Tests
9	٢	**cancer**	**Changes in the cytoplasma in ignancy Changes the nucleus in malignancy**	Theoretical	Tests
10	٢	**cancer**	**anges in cell as a general in malignancy**	Theoretical	Tests
11	٢	tumors	Nomenclature of tumors	Theoretical	Tests
12	٢	tumors	**Classification of tumors**	Theoretical	Tests
13	٢	**Fixatives**	**ation & Fixatives eoretical aspects f Fixation Most mmon fixatives in common use**	Theoretical	Tests
14	٢	**Fixatives**	**ation for special substances Specializes Techniques for lividual tissue & xation Arte fac**	Theoretical	Tests
15	٢	Tissue processtin	ssue processting ation ,dehydration earing ,embdding	Theoretical	Tests

١٦	٢		ctors influencing e of impregnation Agitation t,viscosity,ultraso nies,vacuum	Theoret al	Te sts
١٧	٢	Microtome	Microtomy dparaffin section	Theoret al	Te sts
١٨	٢	Staining	Staining of tissuesections matoxylin ,eosin onnective tissue ,stains	Theoret al	Te sts
١٩	٢	Staining	pecial stains for proteine rbohydrates,lipid cosubstance,pigm ts minerals ,apud cell and nicroorganisms	Theoret al	Te sts
٢٠	٢	Bone	eparationof bone sections	Theoret al	Te sts
٢١	٢		emonstration of oplasmic granules ganells and secial tissue	Theoret al	Te sts
٢٢	٢	Neuropatholgical	ropatholgical tech niques	Theoret al	Te sts
٢٣	٢	Histochemistry	Enzyme stochemistry and aplicaton	Theoret al	Te sts
٢٤	٢	Immunohistocher ry	unohistochemistr and application	Theoret al	Te sts
٢٥	٢	embedding media	esin embedding media	Theoret al	Te sts
٢٦	٢	Electron microsc	ctron microscopy -Diagnosic uses	Theoret al	Te sts
٢٧	٢	Electron microsc	ctron microscopy –techniques	Theoret al	Te sts
٢٨	٢	Histometry	Histometry and diagnostic uses	Theoret al	Te sts
٢٩	٢	Immunofluoresen	munofluoresence Techniques	Theoret al	Te sts
٣٠	٢	Museum and o demonstration techniques	useum and other demonstration techniques	Theoret al	Te sts

11. Course Evaluation

The exams. Students take exams , experiments, and conduct seminars.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Histology and pathology - John Benjamin

	Wheater's Basic Histopathology: A Colour Atlas a Text
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Google Chrome

Course Description Form

1. Course Name:

Immunology

2. Course Code:

3. Semester / Year:

Year 2023−2024

4. Description Preparation Date:

5/4/2024

5. Available Attendance Forms:

Daily attendance

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

120/3

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

Name: Saif Mazeel Abed
Email: saif.mazeel.a@sawauniversity.edu.iq

8. Course Objectives

Course Objectives

1. Urging students to link topics with diseases in the surrounding environment.
2. Making intellectual reports related to scientific vocabulary.
3. Putting students in a scientific, practical, and realistic environment related to the subject immunology to deduce diagnoses from data.

9. Teaching and Learning Strategies

Strategy	1- Lecture, use of the blackboard, and delivery 2- Demonstration (using diagrams and educational pictures using the datashow) 3- Homework assignments 4- Daily exams maps, or peer evaluations to gauge student understanding and provide targe feedback for improvement.

10. Course Structure

Week	**Hours**	**Required Learning**	**Unit or subject name**	**Learning method**	**Evaluation method**

		Outcomes			
1	2	knowledge	Immunology: Definition and classification of the sections of immunity, natural and acquired immunity, natural immune factors and defenses	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral written exams(daily monthly) and scientific reports
2	2	knowledge	The immune system, tissues and lymphocytes, their origin, recipients and stages of maturation. Primary and secondary lymphoid organs.	= = = = = = =	= = = = = = =
3	2	knowledge	The immune system, tissues and lymphocytes, their origin, recipients and stages of maturation. Primary and secondary lymphoid organs.	= = = = = = =	= = = = = = =
5	2	knowledge	Monocytes, phagocytosis: origin, maturation, recipients, types, antigen-presenting cells (APC), inflammation, phagocytosis,	= = = = = = =	= = = = = = =
6	2	knowledge	Antigen: definition, properties, types of antigens, presentation of external and internal antigens .	= = = = = = =	= = = = = = =
7	2	knowledge	Antigenic Determinants: their characteristics, the antigenic determinants of T and B cells, and the differences between them.	= = = = = = =	= = = = = = =
8	2	knowledge	Antibody: their definition, structure of the antibody molecule, their types, and properties, antibody manufacturing and release, monoclonal	= = = = = = =	= = = = = = =

			antibodies.		
9	2	knowledge	:Monoclonal Antibodies	= = = = = = =	= = = = = = =
10	2	knowledge	Antigen-antigen interactions: their properties and applications	= = = = = = =	= = = = = = =
11	2	knowledge	Antigen-antigen interactions: their properties and applications	= = = = = = =	= = = = = = =
12	2	knowledge	Immune response: primary and secondary, their characteristics and differences, regulation of the immune response	= = = = = = =	= = = = = = =
13	2	knowledge	MHC: its definition, types, role in antigen presentation and its relationship to organ rejection. .	= = = = = = =	= = = = = = =
14	2	knowledge	complement	= = = = = = =	= = = = = = =
15	2	knowledge	Mediators and Cytokines	= = = = = = =	= = = = = = =
16	2	knowledge	Bacterial Immunity	= = = = = = =	= = = = = = =

17	2	knowledge	Bacterial (anti-virulence) mechanisms against electronics .	= = = = = = =	= = = = = = =
18	2	knowledge	Anti- viral immunity	= = = = = = =	= = = = = = =
19	2	knowledge	Anti – parasitic immunity المناعة ضد الطفيليات	= = = = = = =	= = = = = = =
20	2	knowledge	Anti – fungal immunity	= = = = = = =	= = = = = = =
21	2	knowledge	Anti- tumor immunity :	= = = = = = =	= = = = = = =
22	2	knowledge	Escaping the body's immunity.	= = = = = = =	= = = = = = =
23	2	knowledge	Hypersensitivity	= = = = = = =	= = = = = = =
24	2	knowledge	Hypersensitivity :	= = = = = = =	= = = = = = =
25	2	knowledge	Immune tolerance	= = = = = = =	= = = = = = =

26	2	knowledge	Auto immunity	= = = = = = =	= = = = = = =
27	2	knowledge	Auto immunity.	= = = = = = =	= = = = = = =
28	2	knowledge	. .Auto immunity..	= = = = = = =	= = = = = = =
29	2	knowledge	Types of natural and acquired immune deficiencies and their theories	= = = = = = =	= = = = = = =
30	2	knowledge	Vaccination, types of vaccines	= = = = = = =	= = = = = = =

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.
20 marks for the first semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks, 2.5 marks and attendance)
Second semester (10 theoretical marks + 2.5 marks and attendance + 5 practical marks 2.5 marks and attendance)
Final exam M 60 (35 theoretical + 25 practical)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Not found
Main references (sources)	
Recommended books and references (scientific journals, reports…)	1-Microbiology and immunology

Course Description Form

1. Course Name: Virology

2. Course Code:

3. Semester / Year: year/ 2023-2024

4. Description Preparation Date: 24/03/2024

5. Available Attendance Forms: Attendence

6. Number of Credit Hours (Total) / Number of Units (Total): 180

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

Name: Professor Dr Nwar Jasem
Email: dr_nawr@yahoo.co.uk

8. Course Objectives

Course Objectives	1. Determine the importance of viruses and fungi in our daily lives 2. Explain the life cycles of all types of viruses and fungi of medical importance. 3. Differentiating between types of viruses and fungi according to their shapes, biological and molecular characteristics, and according to the Baltimore classification. 4. Study the virulence factors possessed by viruses and fungi, which enable them to cause infectious events. 5. Identify the epidemiology and symptoms of viral diseases, especially epidemic ones, as well as skin and systemic fungal diseases. 6. How to control and prevent it.

9. Teaching and Learning Strategies

Strategy	1- Lecture, use of the blackboard, and delivery 2- Demonstration (using diagrams and educational pictures using the datashow) 3- Interactive discussion 4- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	2	Knowledge	General properties of Viruses.	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
2	2	Knowledge	Structure, Classification and Nomenclature of the Viruses.	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
3	2	Knowledge	Atypical Virus-like agents (Prions, Defective viruses, Pseudovirion and Viriods).	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
4	2	Knowledge	Viral Genetic and Molecular & Viral Replication.	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
5	2	Knowledge	Viral Pathogenesis and Transmission	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
6	2	Knowledge	Immunity & Laboratory Diagnosis of Viruses	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow)	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for

				3- Interactive discussio 4- Self-education 5- Giving seminars	theoretical and practical subjects.
7	2	Knowledge	Herpes virus	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
8	2	Knowledge	Hepatitis virus	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
9	2	Knowledge	Hepatitis virus	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
10	2	Knowledge	Human Immune Deficiency virus	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
11	2	Knowledge	Orthomyxovirus.	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
12	2	Knowledge	Paramyxovirus	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio	1. Lectures, seminars, and daily quick exams.

				pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	2. Quarterly exams for theoretical and practical subjects.
13	2	Knowledge	Enteric viruses (Rota, Polio and Reo viruses)	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
14	2	Knowledge	Rabies and other Neurotropic viruses, .	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
15	2	Knowledge	Poxvirus	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
16	2	Knowledge	Coronavirus	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
17	2	Knowledge Knowledge	Adeno and Parvo viruses	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
18	2	Knowledge	Arbovirus	1- Lecture, use of the blackboard, and deliver	1. Lectures, seminars, and

				2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
19	2	Knowledge	Oncogenic viruses	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
20	2	Knowledge	Bacteriophages (Bacterial viruses).	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
21	2	Knowledge	Antiviral Drugs &Viral vaccines	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
22	2	Knowledge	Introduction to medical mycology, History and Epidemiology of medical mycology	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
23	2	Knowledge Knowledge	Morphology, Classification, reproduction of pathogenic fungi.	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.

24	2	Knowledge	Superficial mycosis : Tinea types and Dematiaceuos (black fungi).	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
25	2	Knowledge	Cutaneous mycosis: *Trychphytonspp*, *Microsporiumspp* and*Epidermophytonspp*	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
26	2	Knowledge	Subcutaneous mycosis: Sporothricosis and Mycetoma.	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
27	2	Knowledge	Infection due to filamentous fungi (Zygomycosis and Aspergillosis).	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
28	2	Knowledge	Infection caused by yeasts(Candidiasis and Cryptococcosis).	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
29	2	Knowledge	Opportunistic mycosis: Mucor and Penicillosis. Antibiotics produced by fungi	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and

				4- Self-education 5- Giving seminars	practical subjects.
30	2	Knowledge	Systemic mycosis: Coccidiomycosis and Blastomycosis.	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.

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

40 marks for an annual endeavor (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 5 marks for daily preparation and daily exams + 15 marks for the second monthly exam)
60 marks (20 marks final practical exam + 40 marks final theoretical exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	NA
Main references (sources)	Medical microbiology Jawetz
Recommended books and references (scientific journals, reports…)	المواقع الالكترونية المتوفر علىGoogle Chrome
Electronic References, Websites	References: 1- *Murray's Basic Medical Microbiology 2- Clinical Cases in Microbiology and Infectious DiseasesGhassan MatarJul 2018 **1-** Mims' Medical Microbiology and Immunology Richard Goering Mar 2024Zabriskie JB. (2009). Essential Clinical Immunology. Cambridg **2-** Christine Dorresteyn Stevens (2010). Clinical Immunology & Serology, 3rd Ed. By F.A. Davis Company

Course Description Form

1. Course Name:
Computer applications – Microsoft Power Excel
2. Course Code:
3. Semester / Year:
Semester 3
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms
: Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total):
2 hours (theoretical) + 2 hours (practical) / 6 units
7. Course administrator's name (mention all, if more than one name)
Name: Assist.dr. Salam Ghanim Najeeb Email: Salam.alnajeb@yahoo.com
8. Course Objectives

Course Objectives	1- Understanding software fundamentals: Learning the program interface and main tools in Excel . 2- Data and analysis skills: Entering data and using formulas and functions for data analysis.
9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard and presentation 2- Demonstration (using graphs, pictures and educational films using a data projector) 3- Interactive discussion 4- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes		Learning method	Evaluation method
1	4	knowledge	Excel program: Learn about the concept of the program, its benefits, specifications,	-Lecture, use of the blackboard and presentation -Demonstration	Theoretical, practical/oral and written examinations

			features, and methods of operation -Get to know the main screen, its components, and its various menus and effective tools -The concept of the cell, basic data types and how to enter them How to save the work sheet or work book, close the program, close the file. -Open the saved file, enter data and perform calculations	(using graphs, pictures and educational films using a data projector) -Interactive discussion -Self-education - Open educational classes using the Classroom platform	(daily, monthly and midterm exam) and scientific reports
2	**4**	knowledge	Learn how to adjust, format, and structure data within a single cell or group of cells	====	====
3	**4**	knowledge	Learn about ways to collect data or groups of cells in their different forms, as well as how to sort data -Use some of the functions provided by the program such as max, min, sum, ave, sqrt, count and other useful related statistical functions.	====	====
4	**4**	knowledge	Learn how to add or delete rows and columns on a work page and how to print digital data or charts	====	====
5	**4**	knowledge	The statistical program (ssps), the concept of the program, its operation, and the steps of data analysis - Identify the components of the main screen, enter data, save and retrieve data, types of data (direct or calculated).	====	====
6	**4**	knowledge	-Sort and exchange data, determine the statistical procedure through the statistical topics that the student addresses in statistics lessons. -How to insert a variable or case, merge files, analytical analysis, descriptive statistics	====	====
7	**4**	knowledge	Identify the statistical summary of data and prepare special reports	====	====
8	**4**	knowledge	Comparison between variables or regression - Conduct some non-parametric tests, such as chi square. -Applications of quality control panels. -Dealing with charts, such as	====	====

			line, histogram, pie chart, and bar chart		
9	**4**	knowledge	*Applying mathematical operations in Excel*	====	====
10	**4**	knowledge	Preparing tables and linking them mathematically	====	====
11	**4**	knowledge	Tabulations in Excel	====	====
12	**4**	knowledge	The tools in the tabs work and apply them	====	====
13	**4**	knowledge	Handling orders Summarize (cross tabs).custom tables (basic tables)ANOVA models (one - way).non parametric methods (one sample two sample	====	====
14	**4**	knowledge	To handle orders independently. two samples related.several samples independent.several sample related	====	====
15	**4**	knowledge	Advantages of Excel	====	====

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

40 marks (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 5 marks for daily preparation and daily tests + 5 marks for the first practical exam + 5 marks for the second monthly practical exam)
60 marks (20 marks final practical exam + 40 marks final theoretical exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	not available
Main references (sources)	1-Computer principles 2- Microsoft Power Excel
Electronic References, Websites	Websites available on Google Chrome

Course Description Form

1. Course Name:
Computer applications – Microsoft Power word
2. Course Code:
3. Semester / Year:
Semester 3
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms
: Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total):
2 hours (theoretical) + 2 hours (practical) / 6 units
7. Course administrator's name (mention all, if more than one name)
Name: Assist.dr. Salam Ghanim Najeeb Email: Salam.alnajeb@yahoo.com
8. Course Objectives

Course Objectives	1- Understanding software fundamentals: Learning the program interface and main tools in word . 2- Data and analysis skills: Entering data and using formulas and functions for data analysis.
9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard and presentation 2- Demonstration (using graphs, pictures and educational films using a data projector) 3- Interactive discussion 4- Self-education

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**		Learning method	Evaluation method

1	**4**	knowledge	wordl program: Learn about the concept of the program, its benefits, specifications, features, and methods of operation	-Lecture, use of the blackboard and presentation -Demonstration (using graphs, pictures and educational films using a data projector) -Interactive discussion -Self-education - Open educational classes using the Classroom platform	Theoretical, practical/oral and written examinations (daily, monthly and midterm exam) and scientific reports
2	**4**	knowledge	Learn how to adjust word	====	====
3	**4**	knowledge	Word tools	====	====
4	**4**	knowledge	Tabs - File - Tools	====	====
5	**4**	knowledge	Tabs - home - Tools	====	====
6	**4**	knowledge	Tabs - Insert - Tools	====	====
7	**4**	knowledge	Tabs - design - Tools	====	====
8	**4**	knowledge	Tabs – layout- Tools	====	====
9	**4**	knowledge	Tabs - design - Tools	====	====
10	**4**	knowledge	Tabs - resources- Tools	====	====
11	**4**	knowledge	Tabs - review- Tools	====	====
12	**4**	knowledge	Tabs - view- Tools	====	====
13	**4**	knowledge	Create and format text documents Insert and format images and graphics	====	====
14	**4**	knowledge	Create tables Use templates Text formatting Share documents	====	====
15	**4**	knowledge	Other Advantages of word	====	====

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

40 marks (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 5 marks for daily preparation and daily tests + 5 marks for the first practical exam + 5 marks for the second monthly practical exam)
60 marks (20 marks final practical exam + 40 marks final theoretical exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	not available
Main references (sources)	1-Computer principles 2- Microsoft word
Electronic References, Websites	Websites available on Google Chrome

Course description

Educational institution	Sawa private university
scientific department	College of Health and Medical Technology
Course Title	Clinical Chemistry
Available attendance forms	Two course
Semester/year	2023-2024
Number of study hours (total)	160
The date this description was prepared	3/4/2024

1. Course objectives

- *Providing students with knowledge of the basic concepts of the clinical chemistry.*
- *Students' knowledge of the equipment needed in clinical laboratories.*
- *Introducing the student to the basic principles related to pathological analyzes with regard to clinical chemistry and introducing the student to them*.
- Diagnosis of various medical diseases.
- Identify the mechanism of conducting medical analyzes on sound scientific foundations.

2. LEARNING OUTCOMES: By the end of this course, students will be able:

A- Cognitive objectives

A1- The ability to conduct medical analyzes for many diseases.
A2- A detailed explanation of the pathological symptoms of the urinary system.
A3- Differentiate between types of diseases according to symptoms and biochemical characteristics.
A4- Study the virulence factors possessed by parasites, which enable them to cause infection events..
A5- Identify the epidemiology and symptoms of cancer, heart diseases, and some other diseases.

B. The skills objectives of the course.
B1 - Knowledge of laboratory tools, devices and laboratory materials
B2 - How to use each laboratory device or material for a specific analysis.
B3 - Knowing and understanding the normal numbers for tests and communicating the information to the patient

3. Teaching and learning methods

Presentation of lecture in PowerPoint format
Show explanatory videos
Presentation of sources at the end of a lecture

4. Evaluation methods

The exams. Students take exams, experiments, and conduct seminars

5. Graduation goals

Preparing graduates capable of conducting various clinical analyzes for the patient using laboratory equipment

6. Teaching and learning methods

Books, manuals and practical application

7. Transferable general and qualifying skills (other skills related to employability and personal development).

Students' ability to use laboratory equipment, how to maintain it, and how to understand and read results to patients.

8. Course structure

weak	Hour	Required learning outcomes	Name of the unit/subject	Teaching method	Evaluation method
1	2	WATER HOMEOSTASIS	WATER HOMEOSTASIS	Theoretical	Tests

2	2	WATER HOMEOSTASIS	WATER HOMEOSTASIS	Theoretical	Tests
3	2	MINERAL METABOLISM:	MINERAL METABOLISM: - Electrolytes: Na, K, Cl, Mg, Ca	Theoretical	Tests
4	2	MINERAL METABOLISM	MINERAL METABOLISM: - Electrolytes: - Trace elements: Fe, Cu, Zn, Mn, F	Theoretical	Tests
5	2	BLOOD GASES	:BLOOD GASES Acid - Base balance	Theoretical	Tests
6	2	BLOOD GASES	**BLOOD GASES** **Blood pH & Blood buffer**	Theoretical	Tests
7	2	Diabetes	Diabetes mellitus	Theoretical	Tests
8	2	Diabetes	Diabetes mellitus	Theoretical	Tests
9	2	Liver	**LIVER** **–Physiology and role in metabolism** **–Bilirubin metabolism**	Theoretical	Tests
10	2	liver disease	**Disorders of the Liver** **i) Jaundice & Neonatal Jaundice**	Theoretical	Tests

11	2	liver disease	:**Disorders of the Liver** **ii) Alcoholic Liver disease** **iii) Hepatitis** **iv) Cirrhosis** **v) Liver tumors**	Theoretical	Tests
12	2	Kidney functions	kidney **-Functions** **-Renal functions tests**	Theoretical	Tests
13	2	Kidney functions	kidney **- Proteinuria** **–Renal failure (Acute:Chronic**	Theoretical	Tests
14	2	**Disorder in lipid**	**Disorder in lipid metabolism** **Cholesterol T.G,phospholipids lipoprotein** **Tests (lipid profile)**	Theoretical	Tests
15	2	**Disorder in lipid**	Disorder in lipid metabolism Cholesterol T.G,phospholipids lipoprotein Tests (lipid profile)	Theoretical	Tests
16	2	**Disorder in lipid**	**Disorder in lipid metabolism** **Cholesterol T.G,phospholipids lipoprotein** **Tests (lipid profile)**	Theoretical	Tests
17	2	**Pancreatic function**	**Pancreatic function** **,exocrine,function,Pathology** **P.F.T Disease**	Theoretical	Tests
18	2	**protein**	**Serum protein components** **diseases**	Theoretical	Tests
19	2	**protein**	**Serum protein components** **diseases**	Theoretical	Tests

20	2	TUMOR	TUMOR MARKERS.	Theoretical	Tests
21	2	TUMOR	TUMOR MARKERS.	Theoretical	Tests
22	2	TUMOR	TUMOR MARKERS.	Theoretical	Tests
23	2	Enzymes	Enzymes isoenzymes patterns to pathology .T,Aldolase, CK, LDH, LP , A.la T ASP .T AS Acp ,A	Theoretical	Tests
24	2	Enzymes	Enzymes isoenzymes patterns to pathology .T,Aldolase, CK, LDH, LP , A.la T ASP .T AS Acp ,A	Theoretical	Tests
25	2	Isoenzymes	Enzymes isoenzymes patterns to pathology .T,Aldolase, CK, LDH, LP , A.la T ASP .T AS Acp ,A	Theoretical	Tests
26	2	Hormone	General aspect of hormone Transport regulation Thyroid ,gastointestinal steroid Hormones Parathyroid ,adrenal hormone Sex hormones	Theoretical	Tests
27	2	Hormone	General aspect of hormone Transport regulation Thyroid ,gastointestinal steroid Hormones Parathyroid ,adrenal hormone Sex hormones	Theoretical	Tests
28	2	Hormone	General aspect of hormone Transport regulation Thyroid ,gastointestinal steroid Hormones Parathyroid ,adrenal hormone Sex hormones	Theoretical	Tests

29	2	Hormone	General aspect of hormone Transport regulation Thyroid ,gastointestinal steroid Hormones Parathyroid ,adrenal hormone Sex hormones	Theoretical	Tests
30	2	Hormone	General aspect of hormone Transport regulation Thyroid ,gastointestinal steroid Hormones Parathyroid ,adrenal hormone Sex hormones	Theoretical	Tests

9. Reference

1. Clinical chemistry in diagnosis and treatment, Joan F. Zilva. Fifth edition.1989.
2. Fundamentals of Biochemistry, First Edition: 2012.
3. Clinical Biochemistry and Metabolic Medicine (8th Edition).

Course Description Form

1. Course Name:
Diagnostic bacteria
2. Course Code:
3. Semester / Year:
year
4. Description Preparation Date:
8 April 2024
5. Available Attendance Forms:
Daily Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
180 hr
7. Course administrator's name (mention all, if more than one name)
Name: assit.proof Dr. Naer abud albary Email: Naer . abud@gmail.com
8. Course Objectives

Course Objectives	**1. Determine the structure and function of bacteria.** **2. Explaining bacterial physiology and metabolism.** **3. Differentiating between types of bacteria according to shapes and pigmentation.** **4. Study the virulence factors possessed by bacteria, which enable them to cause bacterial infection events.** **5. Identify the epidemiology and symptoms of bacterial diseases.** **6. How to control these diseases.**
9. Teaching and Learning Strategies	
Strategy	1- Lecture, use of the blackboard, and delivery 2- Demonstration (using the Atlas of Histology book and educational images using the lecture viewer in classrooms. 3- Interactive discussion 4- Self-education.

	5. Technology Integration: Utilize educational apps, online simulations, and virtual labs to provide interactive experiences and enhance understanding. 6. Multimedia Resources: Integrate videos, animations, and documentaries to supplement lectures and provide visual reinforcement.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	**Diagnostic Microbiology: purpose and philosophy**	Lectures, using the blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
2	2	knowledge	**Laboratory safety**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily and monthly) and scientific reports
3	2	knowledge	**-Managing the clinical microbiology laboratory effective patient care in a cost**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
4	2	knowledge	**-Selection, collection, and transport of specimens for microbiological examination**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
5	2	knowledge	**Examination of fresh material**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and	oral and written examinations (daily)

				learning using data show	
6	2	knowledge	**-Cultivation and isolation of viable pathogens**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
7	2	knowledge	**Microbiological methods for identification of microorganisms .**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
8	2	knowledge	**-Nontraditional methods for identification of pathogens or their products**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
9	2	knowledge	**-Antibiotic susceptibility tests**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
10	2	knowledge	**Methods for identification of etiological agents of infectious disease**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
11	2	knowledge	**Diagnosis by organ system Blood stream infections**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)

12	2	knowledge	**Meningitis and other infections of the central nervous system**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
13	2	knowledge	**Infection of the urinary tract**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
14	2	knowledge	**Infection of the urinary tract**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	oral and written examinations (daily)
15	2	knowledge	**Genital tract infections**	Lectures, using blackboard, giving demonstrations,using diagrams and pictures,and learning using data show	Theoretical, practical/oral and written examinations (daily and monthly) and scientific reports
16			**Gastrointestinal tract infections**		
17			**Infections of the eyes, ears and sinuses**		
18			**Skin, Soft tissue and wound infections**		

19			**Normal sterile body fluids, bone and bone marrow and solid tissue**		
20			**-Laboratory methods diagnosis parasitic infections**		
21			**-Laboratory methods in basic mycology**		
22			**-Laboratory methods in basic virology**		

10. Course Evaluation

Distribu3tion of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc., and according to the following:

- **40 annual pursuit grades, including:**

1. (10 first monthly exam + 10 second monthly exam + 5 marks for daily preparation and daily exams for the theoretical subject).
2. (5 first monthly exam + 5 second monthly exam + 5 marks for daily preparation, daily exams, and laboratory work for the practical subject).

- **60 marks for the final theoretical and practical exam, which includes:**

1. (20 marks for final practical exam).
2. (40 marks for final theoretical exam).

11. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Medical Microbiology, 27th edition. ISBN: 9780-0-71-82498-9 (Jawetz Melnick & Adelbergs).
Main references (sources)	**الحقيبة الوزارية المعتمدة**
Recommended books and references	**Pergus Manual & Microbiology**

(scientific journals, reports…)	
Electronic References, Websites	All sites that contain an explanation of body tissues, YouTube, files, and presentations that were given to students. In addition to practical lessons, histological clips, and illustrative pictures of each tissue and organ in the body.

Course description form

:Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

١. Educational institution	٢. Sawa University
٣. Scientific department/center	٤. Medical Laboratory
٥. Course name/code	٦. Medical parasitology
٧. Available forms of attendance	٨. code
٩. Annual/year	١٠. ٢٠٢٣-٢٠٢٤
١١. Number of study hours (total)	١٢. ١٦٠
١٣. The date this description was prepared	٢٠٢٤/٣/٢٤
١٤. Course objectives	
١- Identify the external appearance, life cycle, pathogenicity, and laboratory. Diagnose all parasites of medical importance. ٢- Identify the epidemiology of parasites, with special reference to those endemic in Iraq	

١٠. Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives Determine the structure and function of parasites. .١ Explain the life cycle of parasites. .٢ Differentiate between types of parasites according to their shapes and .٣ biological characteristics Study the virulence factors possessed by parasites, which enable them to .٤ cause infection events. Identify the epidemiology and symptoms of parasitic diseases. .٥ How to control and prevent it .٦ .١
B - The skills objectives of the course. Study the characteristics of parasites Diagnosis of parasites and methods of staining and detection Dealing with various laboratory equipment for parasitology
Teaching and learning methods
Lecture, use of the blackboard, and delivery -١ Demonstration (using diagrams and educational pictures using the datashow) -٢ Interactive discussion -٣ Self-education -٤
Evaluation methods
Student participation during the lecture, presentation of seminars, and short- .١ time quick exams. Quarterly exams for theoretical and practical subjects. .٢
C- Emotional and value goals Urging students to solve intellectual questions. .١ Conduct intellectual competitions related to scientific material. .٢ Putting students in a scientific and practical environment related to .٣ parasitology to deduce diagnoses from the data. Urging students to compete with each other to achieve advanced positions .٤ .١ within the academic subject to obtain grades and moral awards.
Teaching and learning methods
Books, manuals and practical application
Evaluation methods
Practical and theoretical tests

D - Transferable general and qualifying skills (other skills related to employability and personal development). ١. Access to a greater amount of scientific sources. ٢. Presenting the topics recently raised globally through a presentation with everyone's participation through it. ٣. Have students lead discussion circles as well as provide presentations on scientific subject topics to develop and strengthen their personalities

Course structure ١.					
Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Hours	Week
Theoretical, practical/oral and written exams (daily and monthly) and scientific reports	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Recent classification of parasite * Systematic grouping of parasites * General terms used in parasitology	Knowledge	٢	١
======	الحاضرLecture and use ckboard and recitatic Demo e diagrams and pictu Educational using Datashow) nteractive discussion self education Open rows on Google class room	Strategies for diagnosis of parasitic infection * Collection and transport of specimens for enteric pathogens * Factors interfering for all types of stool collection	Knowledge	٢	٢
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Examination of stool sample a) Macroscopic examination of stool b) Microscopic examination of wet mounts	Knowledge	٢	٣
======	Lecture and use lackboard and recitat Demo e diagrams and pictu	Preparation of solutions for wet mount; the	Knowledge	٢	٤

	Educational using Datashow) Interactive discussio self education Open rows on Google class room	advantages and disadvantages of each solution: * Saline solution * Iodine solutions * Eosin solution			
======	Lecture and use ackboard and recitatic Demo e diagrams and pictu Educational using Datashow) nteractive discussion self education Open rows on Google class room	Preparation of preservatives and fixatives for mounted slides * Formalin solution (5-7%) * PVA (Polyvinyle alcohol) as fixative * Schaudinns fixative	Knowledge	٢	٥
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Laboratory diagnosis of enteric protozoa * The routine methods used in laboratory diagnosis	Knowledge	٢	٦
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using	Concentration methods; types, purpose to use	Knowledge	٢	٧

	Datashow) Interactive discussio self education Open rows on Google class room	concentratio n methodes			
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Application of immunologic al methods in the diagnosis of parasite in general * Detection of antibodies in serum of patients with enteric protozoa (ELISA) * Detection of antigens in stool specimen of patients with enteric protozoa), (ELISA)	Knowledge	٢	٨
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Differentiati on of pathogenic Entamoebahi stolytica and the morphologic ally identical non pathogenic Entamoebadi spar using immunologic	Knowledge	٢	٩

		al assays			
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	The application of molecular assays in the diagnosis ofparasites	Knowledge	٢	١٠
======	Lecture and use ackboard and recitatic Demo e diagrams and pictu Educational using Datashow) nteractive discussion self education Open rows on Google class room	Free living pathogenic amoeba e.g Naegleriafo wleri&Acant hamoeba spp. Morphology, habitat, mode of infection, infective stage, life cycle and laboratory diagnosis	Knowledge	٢	١١
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Blastocystish ominis as the causative agent of irritable bowel syndrome Morphology of all forms, habitat, mode of infection, infective stage and laboratory diagnosis	Knowledge	٢	١٢

======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Tissue flagellates e.gGenus Trypanosom a&Genus Leishmania Laboratory diagnosis; routine methods, immunologic al Assays and molecular assays	Knowledge	٢	١٣
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Properties of ideal vaccines.leis hmania Vaccine in trail	Knowledge	٢	١٤
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Phylum Apicomlexa; Main properties of the group, ultrastructure of the apical comlex	Knowledge	٢	١٥
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio	First term examination:	Knowledge	٢	١٦

	self education Open rows Google class room				
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Intestinal coccidian e.g Cryptosporidium parvum Morphology, habitat, mode of infection, infective stage, lifecycle and laboratory diagnosis with special emphasis on Ziehl-Neelsen technique	Knowledge	٢	١٧
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Extra-intestinal coccidian e.g.Toxoplasma gondiiBrief lecture on morphology, habitat, modes of infection,infective stages, life cycle	Knowledge	٢	١٨
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on	Methods of laboratorydiagnosis includes: Direct detection of the parasite; Serological	Knowledge	٢	١٩

	Google class room	methods& Molecular assays			
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Genus Plasmodiu Terms use in malaria Life cycle	Knowledge	٢	٢٠
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Methods of laboratory diagnosis include: - Preparation and detection of parasite in thick and thin blood Smears - Preparation of Geimsa and leishman stains - Quantitative Buffy Coat (QBC) test - Non microscopic test - Rapid Diagnostic Tests (RDTs).	Knowledge	٢	٢١
======	Lecture and use lackboard and recitat Demo	Trichuris trichura. Trichenala	Knowledge	٢	٢٢

	e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	spiralis. Introduction to Helminths Classificatio n of helminthes into: Phylum Platyhelmint hs which includes; Class Cestoda& Class Trematoda			
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	General characters of: Platyhelmint hs& Class Cestoda. .	Knowledge	٢	٢٣
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Genus Taenia including Taeniasagina ta&T. soluim Morphology, habitat, mode of infection, infective stage, life cycle and laboratory diagnosis;dif ferentiate between both species in labrotory	Knowledge	٢	٢٤

======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	The filariaeEchinococcusgranulosusShort notes on the parasite with special emphasis on the methods of diagnosis (detection of certain Ag):	Knowledge	٢	٢٥
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Genus Schistosoma in general with emphasis on the species endemic in Iraq Schistosoma haematobium the use of special technique in the examination of urine sample (filtration by Schisto-kit) as direct method andimmunoblot as indirect method	Knowledge	٢	٢٦
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio	Second term examination	Knowledge	٢	٢٧

	self education Open rows on Google class room				
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Phylum Nemathelmi nths in general Short notes on; Ascarislumb ricoides, Enterobiusve rmicularis, Ancylostoma duodenale, Strongyloide sstercoralis	Knowledge	٢	٢٨
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Modified Kato-Katis technique for examination of thick smear, application of anal swab for pin worm	Knowledge	٢	٢٩
======	Lecture and use lackboard and recitat Demo e diagrams and pictu Educational using Datashow) Interactive discussio self education Open rows on Google class room	Haradi-Mori technique for cultivation of hook worm and detection of rhabditiform and filariform larvae	Knowledge	٢	٣٠
1. Course evaluation					
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.					
40 marks for an annual endeavor (5 marks for the first monthly exam + 5 marks for the					

second monthly exam + 15 marks for the midterm exam) + 5 marks for daily preparation and daily exams + 15 marks for the second monthly exam)	
not found	Required textbooks (methodology, if any)
	Main references (sources)
Paniker's Textbook of Medical Parasitology	Recommended supporting books and references (scientific journals, reports...).
Electronic references, Internet sites, websites available on Google Chrome	Electronic references, Internet sites, websites available on Google Chrome

10. Infrastructure	
1- "Programming in C++, An Applied Approach", Habib T. Kashani, Prentice Hall, 1998. 2- "Programming with C, Theory and Problems", Schaum's outlines, McGraw-Hill, 2nd Ed., 1996. 3- "C++ How to program", Deitel and Deitel,Prentice Hall,2004. 4- "C++ programming from problem analysis to program design" ,D.S. Malik, Thomson learning,2002	1- Required prescribed books
the same as those mentioned above	The main references (sources)
The sources mentioned above are sufficient	Recommended books and references (scientific journals, reports,...)
All sites that contain the C++ programming language, with YouTube, files uploaded to the electronic classroom, and presentations uploaded to the electronic classroom, in addition to electronic interactive lessons, in addition to the electronic classroom, files uploaded to the classroom, and YouTube for the subject.	B - Electronic references, ...Internet sites

Course development plan.١١
We rely on vocabulary from the sectoral committee

Course Description Form

1. Course Name: Clinical Immunology
2. Course Code:
3. Semester / Year: year/ 2023-2024
4. Description Preparation Date: 24/03/2024
5. Available Attendance Forms: Attendence
6. Number of Credit Hours (Total) / Number of Units (Total): 180
7. Course administrator's name (mention all, if more than one name)
Name: Professor Dr Karima Al Salihi Email: kama_akool18@yahoo.co.uk
8. Course Objectives

Course Objectives	The objectives of teaching clinical immunology are: 1. The student will be able to define clinical immunology 2. To determine the immune mechanism responsible for the pathogenesis of common immune diseases. 3. To distinguish the different diagnostic methods as well as the important differential **examinations for each disease**

9. Teaching and Learning Strategies

Strategy	**A- Cognitive objectives** 1. Identify autoimmune diseases. 2. Understanding the different causes of autoimmune diseases. 3. Identify the mechanism of occurrence of these diseases and their pathogenesis. 4. Identify the clinical signs of these clinical diseases 5. Learn about diagnostic methods 6. Knowledge of the different laboratory methods and differentiation of these diseases. 7. How to treat and prevent it. **B. The skills objectives** 1. Studying the clinical signs and various causes of autoimmune diseases. 2. Diagnosing various immune diseases using laboratory methods available in laboratories 3. Dealing with various laboratory equipment for various immunological tests.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Knowledge	Rheumatic Dise Rheumatoid Arth	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
2	2	Knowledge	Systemic Lu Erythematosus	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
3	2	Knowledge	Sjögren's Syndro	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
4	2	Knowledge	Ankylosing Spondylitis	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
5	2	Knowledge	Bechet's Disease.	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
6	2	Knowledge	Psoriatic Arthritis,	1- Lecture, use of the blackboard, and deliver	1. Lectures, seminars, and

				2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
7	2	Knowledge	Liver & Gastrointestinal Diseases 1. Gluten sensitive Enteropathy	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
8	2	Knowledge	Type A Gastritis (Pernicious Anemia) 3. 3. Type B Gastritis (Mucosa-associated lymphoid tissue lymphoma) and Helicobacter pylori associated chronic gastritis	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
9	2	Knowledge	INFLAMMATORY BOWEL DISEASES: Ulcerative Colitis Crohn's Disease	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
10	2	Knowledge	LIVER & GALL BLADDER DISORDERS: Autoimmune Chronic Ac hepatitis (AIH	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
11	2	Knowledge	LIVER & GALL BLADDER DISORDERS: .Primary Biliary Cirrhosis .Primary Sclerosing Cholangitis	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.

12	2	Knowledge	Renal Diseases A. Circulating immune complexes Disorders Serum Sickness	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
13	2	Knowledge	Lupus Nephritis	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
14	2	Knowledge	Post infection Glomerulonephritis.	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
15	2	Knowledge	Membranous proliferative glomerulonephritis (MPGN) with cryoglobulinemia	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
16	2	Knowledge	In situ immune complex formation related diseases Membranous glomerulonephritis (Nephr Syndrome	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
17	2	Knowledge Knowledge	IgA-Nephropathy	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and

				4- Self-education 5- Giving seminars	practical subjects.
18	2	Knowledge	Henoch-Schonlein Purpura (HSP	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
19	2	Knowledge	Vasculitis associated glomerular lesion Anti-neutrophil cytoplasmic antibodies(ANCA)	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
20	2	Knowledge	Wegener's granulomatosis. Anti-glomerular Basement Membrane (Good Pasteure Syndrome)	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
21	2	Knowledge	Respiratory disease Drug-induced pulmonary disease Eosinophilic Pneumonia Occupational and Environmental Lung Disease	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
22	2	Knowledge	Asthma NON ALLERGIC BRONCHITIS	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
23	2	Knowledge Knowledge	Asthma NON ALLER BRONCHITIS	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio	1. Lectures, seminars, and daily quick exams.

				pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	2. Quarterly exams for theoretical and practical subjects.
24	2	Knowledge	Autoimmune hemolytic anaemia ECZEMA & CONTACT DERMATITIS duadenale ,Necator Americans (	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
25	2	Knowledge	Immunological Thyroid Disease	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
26	2	Knowledge	Tumor	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
27	2	Knowledge	Hemangiomas Premalignant Cervical dysplasia	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
28	2	Knowledge	Adenomas Fibroids	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
29	2	Knowledge	Metaplasia of the lung Leukoplakia	1- Lecture, use of the blackboard, and deliver	1. Lectures, seminars, and

			Tumor Markers	2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	daily quick exams. 2. Quarterly exams for theoretical and practical subjects.
30	2	Knowledge	Graft-Versus-Host Disease (GvHD)	1- Lecture, use of the blackboard, and deliver 2- Demonstration (usin diagrams and educatio pictures using the datashow) 3- Interactive discussio 4- Self-education 5- Giving seminars	1. Lectures, seminars, and daily quick exams. 2. Quarterly exams for theoretical and practical subjects.

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

40 marks for an annual endeavor (5 marks for the first monthly exam + 5 marks for the second monthly exam + 15 marks for the midterm exam) + 5 marks for daily preparation and daily exams + 15 marks for the second monthly exam)
60 marks (20 marks final practical exam + 40 marks final theoretical exam)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	NA
Main references (sources)	Stites DP, Terr AI, Parslow TG (2011) Medical Immunology; 7th Ed. Middle East Edition; By Appleton & Lange
Recommended books and references (scientific journals, reports...)	المواقع الالكترونية المتوفر على Google Chrome
Electronic References, Websites	References: **1-** *Stites DP, Terr AI, Parslow TG (2011) Medical Immunology; 7th Ed. Middle East Edition; By Appleton & Lange **2-** Goldspy RA, Kindit TJ, Osborne BA. & Kuby J. (2008) Kuby Immunology 6th Ed. **3-** Abul K. Abbas; Andrew H. Lichtman (2011). Cellular & Molecular Immunology. 5th Ed. By SAUNDERS **4-** Reiner Westermeier. (2008). Electrophoresis in Practice 4th Ed. **5-** Zabriskie JB. (2009). Essential Clinical Immunology. Cambridg **6-** Christine Dorresteyn Stevens (2010). Clinical Immunology & Serology, 3rd Ed. By F.A. Davis Company
