Ministry of Higher Education and Scientific Research
Supervision and Scientific Evaluation Authority
Department of Quality Assurance and Academic Accreditation Division

Academic Program Description Manual

2024

Academic Program Description Template

Name of the University: Uruk University

College/Institute: College of Medical and Health Technologies

Academic Department: Department of Medical Laboratory Techniques

Academic or Professional Program Name: Bachelor of Medical Laboratory Techniques

Final Degree Title: Technical bachelor's degree in Pathological Analysis

Academic System:

First, Second, and Third Stages – Semester System

Fourth Stage – Annual System

Program Description Preparation Date: 02/10/2024

File Completion Date: 02 /10/2024

Signature:
Deputy Dean Academic for Affairs:
Dr. Faiza Hazem Hassan
Date: 16/6/2025

Signature:
Head of Department: Prof. Dr. Mohammed Kadhem Mohammed
Date: 20-5-2025

File Reviewed By:
Quality Assurance and University Performance Division
Director of the Quality Assurance and University Performance Division:
Dr. Hussein Arrak Majeed Alzubaidi
Date: 20-5-2025
Signature:

Approval of the Dean

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Introduction:

The educational program is a coordinated and organized package of courses that includes procedures and experiences structured into curricular components. Its primary purpose is to build and refine graduates' skills, ensuring they are qualified to meet labor market demands. The program is reviewed and evaluated annually through internal or external auditing mechanisms such as the External Examiner Program.

The academic program description provides a brief summary of the program's main features and courses, highlighting the skills targeted for student development based on the program's academic objectives. This description is crucial, as it forms the foundation for obtaining programmatic accreditation and is prepared collaboratively by the teaching staff under the supervision of the scientific committees in the academic departments.

This second edition of the guide includes an updated description of the academic program, reflecting revisions to the previous version in light of developments in the Iraqi educational system. It encompasses both traditional program structures (annual and semester-based systems), as well as the standardized academic program description adopted per the Ministry of Higher Education and Scientific Research directive Ref. No. T.M.3/2906 dated 03/05/2023, particularly for programs aligned with the Bologna Process.

In this context, we emphasize the importance of accurately writing academic program and course descriptions to ensure the effective implementation of the educational process.

Concepts and Terminology:

Academic Program Description:

Provides a concise summary of the program's vision, mission, and objectives, including a precise outline of the intended learning outcomes based on defined teaching and learning strategies.

Course Description:

Offers a brief summary of the key features of the course and the expected learning outcomes that students should achieve. It demonstrates whether the student has effectively utilized the available learning opportunities. The course description is derived from the overall program description.

Program Vision:

An aspirational image of the future of the academic program, aiming for it to be advanced, inspiring, motivating, realistic, and applicable.

Program Mission:

Clearly outlines the goals and activities necessary to achieve the vision, providing direction for the development and progression of the program.

Program Objectives:

Statements that describe what the academic program intends to accomplish within a specific timeframe. These should be measurable and observable.

Curriculum Structure:

Includes all academic courses/modules offered within the program, based on the adopted educational system (semester-based, annual, or Bologna Process). This includes mandatory courses required by the Ministry, University, College, or Academic Department, along with the number of credit units.

Learning Outcomes:

A coherent set of knowledge, skills, and values acquired by the student upon the

successful completion of the academic program. Each course must define its learning outcomes in a manner that supports the overall program objectives.

Teaching and Learning Strategies:

The methods used by faculty members to enhance student learning and development. These strategies include all classroom and extracurricular activities designed to achieve the program's learning outcomes.

1. Program Vision

This course description provides a brief summary of the key characteristics of the course and the expected learning outcomes that students are anticipated to achieve. It serves as evidence of whether the student has made the most of the available learning opportunities. Each course within the program is accompanied by a corresponding description.

1. Program Mission

The department aims for the continuous advancement of medical laboratories in terms of equipment, capabilities, and integration with theoretical knowledge. This integration enhances the scientific and practical competencies of graduates, enabling them to provide effective and high-quality support to patients and healthcare providers.

1. Program Objectives

The primary goal of the **Bachelor's Degree in Medical Laboratory Techniques** is to prepare highly competent laboratory technicians. This is achieved through two main components:

A. Cognitive Objectives

1 Acquire knowledge and understanding of pathological tissues and the major types of pathogenic organisms (bacteria, parasites, viruses, and fungi).

2 Develop intellectual understanding of human physiology.

3 Gain knowledge in clinical chemistry and perform biochemical tests.

4 Learn about laboratory instruments and methods of maintenance.

B. Skill-Based (Practical) Objectives

1.Enable students to perform all procedures related to pathological analyses.

2.Train students to operate and maintain laboratory equipment used in medical testing.

3.Equip students with the ability to troubleshoot problems related to laboratory testing

1. Program Accreditation
Is the program accredited? If yes, by which agency? No

2. Other External Influences
Is there a sponsoring or supporting agency for the program? No

1. Program Structure

Program Structure	Number of Courses	Credit Units	Percentage	Notes*
Institutional Requirements	**14**	**28**	**18.3%**	
College Requirements	**10**	**27**	**17.6%**	
Department Requirements	**22**	**74**	**34.78%**	
Summer Training	**2**			
Other				

7.Program Description					
Stage/Level	Course Code	Course Name	Units		
				Theoretical	Practical
First Stage	GCH04101	General Chemistry 1	4	2	5
	AMT04101	Medical Terminology	2	2	-
	HUB04101	Human Biology 1	4	2	5
	LIN04101	Laboratory Instruments 1	4	2	4
	MES04101	Professional Conduct	2	2	-
	CAP04101	Computer Fundamentals 1	2	1	2
	HUR04101	Human Rights and Democracy	2	1	-
	ENG04101	English Language	3	3	-
	GCH04102	General Chemistry 2	4	2	5
	ANA04102	Anatomy	4	2	5
	HBI04102	Human Biology 2	4	2	5
	LIN04102	Laboratory Instruments 2	4	2	4
	CAP04102	Computer Fundamentals 2	2	1	2
	ARL04102	Arabic Language	2	2	-
	MED04201	Medical Bacteriology 1	4	2	4
	BIO04201	Biochemistry 1	4	2	4
	HPH04201	Human Physiology 1	4	2	4
	HIS04201	Histology 1	4	2	4
	MOB04201	Molecular Biology	4	2	4

Second Stage	MEP04201	Medical Parasitology 1	4	2	4
		Computer Applications 1	4	2	4
	CRB04201	Crimes of the Baath Regime in Iraq	2	1	-
	MEB04202	Medical Bacteriology 2	4	2	4
	BIO04202	Biochemistry 2	4	2	4
	HPH04202	Human Physiology 2	4	2	4
	HIS04202	Histology 2	4	2	4
	MPE04202	Medical Parasitology and Insects 2	4	2	4
		Computer Applications 2	4	2	4
	DEB04202	Descriptive Biostatistics	2	1	2
	ARL04202	Arabic Language	2	1	-
Third Stage		Histopathology 1	**2**	**2**	**3**
		Hematology 1	**2**	**2**	**3**
		Medical Mycology	**4**	**2**	**4**
		Metabolic Disorders	**4**	**2**	**4**
		Medical Genetics 1	**4**	**2**	**4**
		Immunology 1	**4**	**2**	**4**
		Advanced Laboratory Techniques	**2**	**2**	**3**
		Computer Applications 1	**2**	**1**	**2**
		Histopathology 2	**2**	**2**	**3**
		Hematology 2	**2**	**2**	**3**
		Medical	**4**	**2**	**4**

		Virology			
		Clinical Endocrinology	4	2	4
		Genetics 2	4	2	4
		Immunology 2	4	2	4
		Analytical Biostatistics	3	1	2
		Computer Applications 2	2	1	2
		Training	–	–	–
Fourth Stage	CIM04400	Clinical Immunology	8	2	4
	DBA04400	Diagnostic Bacteriology	8	2	4
	ACC04400	Advanced Clinical Chemistry	8	2	4
	MPA04402	Medical Parasitology	8	2	4
	BTR04400	Blood Transfusion	8	2	4
	HIS04402	Histopathology	7	1	5
	ENG04404	English Language	2	0	5
	LMA04400	Laboratory Management and Research Methodology	2	1	-
	HEM04400	Professional Ethics	2	2	-
	PRJ04400	Graduation Project	4	-	-

8. Expected Learning Outcomes of the Program

To educate students on the fundamentals of pathological analyses and practical applications in analytical laboratories through:

1. Developing modern, internationally accredited curricula
2. Utilizing scientific films
3. Training students using simulation-based methods in both modern and traditional laboratories to ensure comprehensive knowledge of all techniques used in laboratory practice

Teaching and Learning Strategies

1.Preparing a seminar research project (graduation research).

2. Adopting a grading-based system as the foundation of the evaluation process.

3. Using examinations as an assessment method. .

4. Encouraging discussions and dialogues between students and the instructor.

5. Creating test assignments within virtual classrooms.

6. Utilizing electronic assessments via Google Forms.

Affective Values and Objectives

1 he student should engage actively during the lecture.

2 The student should listen attentively to the instructor's explanation.

3 The student should participate and contribute to extracurricular activities.

4 The student should learn to act professionally.

5 The student should learn methods of human communication.

9. Assessment Methods

1 Daily quizzes

2 Midterm exams

3 Weekly reports on practical experiments

4 Daily attendance and in-class participation

10. Admission Criteria

According to the requirements of the Ministry of Higher Education and Scientific Research, applicants seeking admission to the departments of the College of Medical and Health Technologies at Uruk Private University must meet the following condition:

They must be graduates of the scientific branch of secondary school exclusively, or among the top ten graduates of technical institutes.

11. Main Sources of Information About the Program

The teaching staff at the college, instructors' lectures, the college library, the electronic library, curriculum textbooks, supplementary books, the official website, and the internet.

12. Program Development Plan

Developing and establishing specialized scientific laboratories to provide students with exposure to the latest modern technologies.

13. Professional Development
Guiding newly appointed faculty members
Emphasizing discipline at work, avoiding delays, and managing the classroom smoothly and calmly
Enhancing the professional development of faculty members
through training programs such as teaching qualification courses, teaching methodologies, Arabic language courses, and computer skills courses

14. Admission Criteria

Applicants seeking admission to the departments of the College of Medical and Health Technologies at Uruk Private University must meet the following condition: They must be graduates of the scientific branch of secondary school exclusively or among the top ten graduates of technical institutes.

15. Main Sources of Information About the Program

The college's teaching staff, instructors' lectures, the college library, the electronic library, curriculum textbooks, supplementary books, the official website, and the internet.

16. Program Development Plan

Developing and establishing specialized scientific laboratories to provide students with access to the latest modern technologies.

Curriculum Skills Map

Please check the boxes corresponding to the individual learning outcomes from the program under evaluation.

Year / Level	Course Code	Course Title	Core or Elective	Cognitive Objectives				Program-Specific Skill-Based Objectives				Affective and Value-Based Objectives			
				1A	2A	3A	A	B 1	B 2	3B	4B	1J	2J	3J	4J
First	GCH04101	General Chemistry I	Core	√	√	√	√	√	√	√	√	√	√	√	√
	AMT04101	Medical Terminology	Core	√	√	√	√	√	√	√	√	√	√	√	√
	HUB04101	Human Biology I	Core	√	√	√	√	√	√	√	√	√	√	√	√
	LIN04101	Laboratory Instruments I	Core	√	√	√	√	√	√	√	√	√	√	√	√
	MES04101	Professional Conduct	Core	√	√	√	√	√	√	√	√	√	√	√	√
	CAP04101	Computer Fundamentals I	Core	√	√	√	√	√	√	√	√	√	√	√	√
	HUR04101	Human Rights and Democracy	Core	√	√	√	√	√	√	√	√	√	√	√	√

	ENG04101	English Language	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	GCH04102	General Chemistry II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	ANA04102	Anatomy	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	HBI04102	Human Biology II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	LIN04102	Laboratory Instruments II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	CAP04102	Computer Fundamentals II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	ARL04102	Arabic Language	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
Second	MED04201	Medical Bacteriology I	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	BIO04201	Biochemistry I	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	HPH04201	Human Physiology I	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	HIS04201	Histology I	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	MOB04201	Molecular Biology	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	MEP04201	Medical Parasitology I	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Computer Applications I	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	CRB04201	Crimes of the Ba'ath Regime in Iraq	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	MEB04202	Medical Bacteriology II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	BIO04202	Biochemistry II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	HPH04202	Human Physiology II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	HIS04202	Histology II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√

	MPE0420	Medical Parasitology and Entomology II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Computer Applications II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	DEB04202	Descriptive Biostatistics	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	ARL04202	Arabic Language	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
Third		Histopathology I	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Hematology I	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Medical Mycology	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Metabolic Disorders	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Medical Genetics I	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Immunology I	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Advanced Laboratory Techniques	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Computer Applications I	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Histopathology II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Hematology II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Medical Virology	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Clinical Endocrinology	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Medical Genetics II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Immunology II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Analytical Biostatistics	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
		Computer Applications II	**Core**	√	√	√	√	√	√	√	√	√	√	√	√

Fourth	CIM04400	Clinical Immunology	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	DBA04400	Diagnostic Bacteriology	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	ACC04400	Advanced Clinical Chemistry	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	MPA04402	Medical Parasitology	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	BTR04400	Blood Transfusion	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	HIS04402	Histopathology	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	ENG04404	English Language	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	LMA04400	Laboratory Management and Research Methodology	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	HEM04400	Professional Ethics	**Core**	√	√	√	√	√	√	√	√	√	√	√	√
	PRJ04400	Graduation Project	**Core**	√	√	√	√	√	√	√	√	√	√	√	√

Please place a checkmark in the boxes corresponding to the individual learning outcomes from the program under evaluation.

Course Description Template

1. Course Title:
Medical Laboratory Techniques
2. Course Code:
3. Semester / Academic Year
First and Second Semester / First Year First and Second Semester / Second Year First and Second Semester / Third Year First and Second Term / Fourth Year
4. Date of Preparing this Description
2025/4/14
5. Available Attendance Formats
Theoretical and Practical
6. Total Study Hours / Total Credit Units
First Year: Total study hours per subject per semester: 30 / Total credit units: 44 **Second Year**: Total study hours per subject per semester: 30 / Total credit units: 49 **Third Year**: Total study hours per subject per semester: 30 / Total credit units: 47 **Fourth Year**: Total study hours per subject per academic year: 60 / Total credit units: 40
7. Name of the Course Coordinator (If there is more than one, please list all names.)
Name: **Email:**
8. Course Objectives

Course Objectives	1 Establish the foundational skills and theoretical knowledge necessary for building a successful professional career as a medical laboratory technician 2 Graduate qualified specialists equipped with the required knowledge and skills 3 Perform all clinical laboratory analyses with a high level of accuracy

	4 Demonstrate the ability to manage medical laboratories and operate various laboratory instruments 4 Interact with patients or cases in accordance with professional ethics and honorable conduct
9. Teaching and Learning Strategies	
Strategy	Using lectures to address students, along with PowerPoint slides, whiteboards, dedicated educational laboratories, and short scientific video clips; conducting laboratory experiments and providing the necessary resources for the practical component; and training students under the supervision of a professor and specialized teaching assistants.

10 . Course Structure

Number of Weeks	Weekly Hours	Intended Learning Outcomes	Unit / Topic Title	Learning Method	Assessment Method
30	7	Study the core concepts of chemistry and their relevance to the human body	General Chemistry	Theoretical and Practical	Theoretical Exams and Practical Application
15	7	Ability to understand and correctly use anatomical terminology, and recognize the internal anatomy of organs	Anatomy	Theoretical and Practical	Theoretical Exams and Practical Application
30	6	Study the functional systems of the human body and their connection to other sciences	Human Biology	Theoretical and Practical	Theoretical Exams and Practical Application
30	6	Study core and conventional laboratory instruments, how to use and maintain them to perform various laboratory	Laboratory Instruments	Theoretical and Practical	Theoretical Exams and Practical Application

		tests			
30	3	Gain experience in working with different types of computer software	Computer Fundamentals	Theoretical and Practical	Theoretical Exams and Practical Application
15	2	Understand key human behaviors and professional conduct expected of medical laboratory technicians, and how to interact with patients	Professional Conduct	Theoretical	Theoretical Exams and Practical Application
15	2	Students will learn about the historical development of human rights	Human Rights and Democracy	Theoretical	Theoretical Exams and Practical Application
15	2	Core principles of the English language	English Language	Theoretical	Theoretical Exams and Practical Application
15	2	Core principles of the Arabic language	Arabic Language	Theoretical	Theoretical Exams and Practical Application
30	6	Understanding the types of pathogenic and beneficial bacteria, modes of infection and transmission, and methods of control	Medical Bacteriology	Theoretical and Practical	Theoretical Exams and Practical Application
30	6	Study of all biochemical reactions and indicators occurring within the living body	Biochemistry	Theoretical and Practical	Theoretical Exams and Practical Application
30	6	Clarification of core concepts in physiology and understanding natural phenomena and their interpretation	Human Physiology	Theoretical and Practical	Theoretical Exams and Practical Application
30		Study of the types	Histology	Theoretical	Theoretical

	6	of tissues that make up living organs and distinguish between normal and pathological tissues		and Practical	Exams and Practical Application
15	6	Understanding and studying the structure and function of essential molecules in living organisms	Molecular Biology	Theoretical and Practical	Theoretical Exams and Practical Application
15	6	Identification of parasitic organisms that cause diseases in living beings	Medical Parasitology	Theoretical and Practical	Theoretical Exams and Practical Application
15	6	Study of disease-causing parasites and their transmission through insect vectors	Medical Parasitology and Entomology	Theoretical and Practical	Theoretical Exams and Practical Application
15	2	Understanding the crimes committed by the former regime	Crimes of the Ba'ath Regime in Iraq	Theoretical	Theoretical Exams
15	2	Introduction to biostatistics, study of core concepts (data and data sources, variables, populations, and data collection methods), and methods of data presentation	Descriptive Biostatistics	Theoretical	Theoretical Exams
30	6	Study of tissues and the abnormal changes that occur, performing tissue sectioning and examination under the microscope, and methods of biopsy collection	Histopathology	Theoretical and Practical	Theoretical Exams and Practical Application
30		Study, diagnosis,		Theoretical	Theoretical

	7	treatment, and prevention of blood-related diseases	Hematopathology	and Practical	Exams and Practical Application
15	4	Identification of major and most dangerous disease-causing viruses and methods of control	Virology	Theoretical and Practical	Theoretical Exams
15	3	Identification of major and most dangerous disease-causing fungi and methods of control	Mycology	Theoretical and Practical	Theoretical Exams and Practical
15	3	Understanding the analysis of chemical compounds found in body fluids (blood, urine, and other body fluids)	Clinical Chemistry	Theoretical and Practical	Theoretical Exams and Practical Application
15	3	Study of the inheritance of diseases in humans	Human Genetics	Theoretical and Practical	Theoretical Exams and Practical Application
15	3	Study of the body's defense mechanisms against pathogens and microbes	Immunology	Theoretical and Practical	Theoretical Exams and Practical Application
15	4	Understanding the management and control of laboratories, integrating modern skills and techniques	Advanced Laboratory Techniques	Theoretical and Practical	Theoretical Exams
15	2	Understanding modern and essential software programs that can be used to display and interpret test results	Computer Applications	Theoretical and Practical	Theoretical and Practical Exams
15	2	Identifying blood	Blood	Theoretical	Theoretical

		types and understanding blood transfusion methods	Transfusion	and Practical	Exams
15	3	Clarifying knowledge and understanding the principles governing molecular structures, and recognizing the role of chemistry in pathological and healthy conditions across different body systems	Advanced Clinical Chemistry	Theoretical and Practical	Theoretical Exams and Practical Application
15	1	Studying laboratory work and procedures, including the use of laboratory instruments and performing required analyses in the graduation project	Laboratory Management and Research Teaching Methods	Theoretical	Theoretical Exams
30	6	Studying the types of tumors and cancers affecting various body organs, their causes, and diagnostic methods	Pathology	Theoretical and Practical	Theoretical Exams
15	4	Studying glands and hormone-secreting organs and their biological effects	Endocrinology	Theoretical and Practical	Theoretical Exams
15	3	Studying metabolic disorders, abnormal chemical reactions, and metabolic problems that cause diseases in humans	Metabolic Disorders	Theoretical and Practical	Theoretical and Practical Exams

11. Course Evaluation
The grade (out of 100) is distributed based on the tasks assigned to the student, such as daily preparation, quizzes, oral and monthly exams, written exams, reports, etc.

12. Required Textbooks

1. Professor (Dr.)Amjad Daoud Niazi:"Statistical Analysis In Medical Research

2nd Edition ; March 2004.

2. Aviva P. and Caroline S.: Medical statistics at a Glance 3th Edition ;2009.
3. Wayne W. Daniel: Biostatistics "Basic Concepts and Methodology for the
4. Health Sciences" 9th Edition ;2010 4-Aviva P. and Caroline S.: Statistics in medicine 3th Edition ;2012.
5. Paniker's Textbook of Medical ParasitologyJAYPEE BROTHERS MEDICAL PUBLISHERS (P) LTD New Delhi • London • Philadelphia • Panama (2013).
6. Helminthology ,D.D MORO Abadan Iran 2012
7. الكتاب المنهجي لجرائم نظام البعث في العراق2023و للجامعات العراقية الحكومية و الأهلية كافة و لجميع الاختصاصات

Course Description Template

Course Title
Chemistry2
Course Code
Semester / Year

Semester
Date of Course Description Preparation
2025/3/22
Available Attendance Modes
In Person class attendance
Total Study Hours / Total Credit Units
Course Coordinator(s)
Name: Prof. Dr. Suham Tawfiq Ameen Email: drsuhamameen@gmail.com
Course Objectives

Course Objectives	▯ The student becomes familiar with the chemistry laboratory in general. ▯ They are able to understand the basic principles of biochemistry and their applications. ▯ They have the ability to collect and handle biological samples. ▯ They are able to use and maintain the necessary devices and tools. ▯ They are able to analyze the components of blood and other body fluids both qualitatively and quantitatively. ▯ They work safely in laboratories.

Teaching and Learning Strategies	
Strategy	They are able to correlate abnormal changes in blood and other body components with disease.

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
2-1 4-3 6-5 7 9-8 10		Carbohydrates: -1Definition. -2Biological functions. -3Classification. Lipids:			

11 12 13 14 15		-1Definition. -2Biological functions. -3Classification. Amino acids and Proteins: -1Definition. -2Biological functions. -3Classification. Review and exam Nucleotides and Nucleic acids: -1Definition. -2Classification of nitrogenous bases. -3Biological functio of free nucleotides. -4General structure and differences between DNA and RNA. General properties c enzymes: a) active sites c) specificity e) regulation			

		b) catalytic efficienc d) cofactor f) location within th cells -2Factors affecting reaction velocity a) Substrate concentration b) Temperature c) Ph Vitamins: -1Definition. -2Classification (Water and Fat soluble vitamins.(-3sources, daily requirement, biological function and abnormal conditions due to deficiency or toxicity Solar energy technology -1Availability of sola radiation -2Photovoltaic devic			

		-3Dye sensitized so cells -5Disadvantages -4Advantages of Sol Energy -6Photo Electrochemical Hydrogen Productio Nanotechnology in renewable energy system -1Nanotechnology enable renewable energy technologies -2Energy transport, conversion and storage- Nano, micr and meso scale phenomena devices Nanotechnology to Hydrogen Productio -1Photocatalytic water splitting reaction -2Nano semiconductor materials for photocatalytic wate splitting -3photolytic H2 Evolution based on Nano enhanced materials			

		Revision			

Course Assessment
The score out of 100 is distributed based on the tasks assigned to the student, such as daily preparation, daily exams, oral exams, monthly and written exams, reports, etc.

Learning and Teaching Resources	
□ Required textbooks (curriculum, if available)	Second Semester
□ Main references (sources)	
□ Recommended supplementary books and references **(**scientific journals, reports, etc.)	fundamental of Biochemistry BY Jakuboweski
□ **Electronic references and websites**	Google

Course Description Template

Course Title
General Chemistry
Course Code
Semester / Year
First
Date of Course Description Preparation
2025/3/20
Available Attendance Modes
In person
Total study hours / Number of units
+5 = 7 (Number of hours)2 Number of units: 4
Course Coordinator(s)
Name: Prof. Suham Tawfiq Ameen Email: drsuhamameen@gmail.com
Course Objectives

Course	• The student becomes familiar with the chemistry laboratory. • The student learns about chemical reactions.

Objectives	Understands the principles of biochemistry and connects diseases with biochemistry and is able to analyze the components of blood and body fluids.
Strategy	Teaching students how to use and maintain the equipment and interpret practical results.

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
1 2 3 4 5 6 7 8 ,10 11 12 ,14 15		Introduction to chemistry (matter, structure of atom, periodic table, isotopes, atomic number, mass number, compositio of matter, types of bonds(Analytical chemistry Methods of analysis Types of Solution, preparation of standard solution ur concentration, percentage، Molar solution, Normal solution, par per million Acid base theory, types of Chemical reactions, neutralization reaction Periodic table,			

		equilibrium constan buffer solution Acid-base titration, oxidation-reduction reaction Spectroscopy)Optical spectroscop Beer's lambert law(Review and exam Structure of carbon compounds (alkanes alkenes, alkynes, halogen compound(Alcohols, classification, property's reaction Aldehydes and ketones property's reaction Carboxylic acid, Aromatic, Hydrocarbon Amines, properties, chemical reaction			

Course Assessment
Grade distribution out of 100 based on the tasks assigned to the student, such as: daily preparation, quizzes, oral exams, monthly and written exams, reports, etc.

Learning and Teaching Resources	
• Prescribed Textbooks (Curricular, if available)	

• Main References (Sources)	
• Recommended Supplementary Books and References **(Scientific journals, reports, etc.)**	Fundamental of general chemistry by west
• Prescribed Textbooks (Curricular, if available)	google

Course Description Template

Course Title	
General Chemistry-practical	
Course Code	
Semester / Year	
First semester–first year 2024–2025	
Date of Course Description Preparation	
10–4–2025	
Available Attendance Mode	
In-person laboratory lectures	
Total Study Hours / Total Credit Units	
Practical 15	
Course Coordinator(s)	
Name: Assistant Lecturer Alaa Ahmed Saleh Email: a66951026@gmail.com	
Course Objectives	
Course Objectives – To utilize practical experiments in general chemistry, explain and discuss the experimental procedures and results, and apply them practically in the laboratory.	....
Teaching and Learning Strategies	
Strategy	To teach the subject through practical application and enable students to apply it by using experiments and conducting implicit tests during the lecture. *To activate testing of the subject in the lecture following the explanation in order to reinforce and confirm the material, and*

	to assess the level of student engagement with the subject.

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
1 2 3-4 5-6 7 8-10 11-12 13-14 15	1.5 hr. 1.5 hr. 1.5 hr. 1.5hr 1.5hr 1.5hr 1.5hr 1.5hr 1.5hr	Identify carbohydrates and their specific test Identification of the orange vitamin Proteins and their specific tests Introduction to chromatography Introduction to thin-layer chromatography	Carbohydrates-Molisch test, Benedict, Bioerosion test. Disaccharides – hydrolysis by acids. Determination of vit. In orange. heme for entification of nknown carnosol. Saponification experiment. Proteins-Biuret test, Ninhydrin, xanthoprotein test. Precipitation of proteins. Paper chromatography. Thin layer chromatography.	Practical Explanation	scussion and Exam

Course Assessment

The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.

Learning and Teaching Resources

• Required Textbooks (Coursebooks, if available)	-Organic chemistry-Jonathan Clayden, Nick Rees, Stuart warren-google books trieved July 20,2022, from ps//books.google.iq/books
• Main References (Sources)	-organic chemistry.

• Recommended Supplementary Books and References (Scientific Journals, Reports, etc.)	-Babylon university college of pharmacy practical biochemistry Assist. Prof. dr Abdulhussien al Jebory and Tamadhur al-Salman Cho,r.2021 why we need green hydrogen. Columbia university
• Electronic References and Internet Websites	Robert erforest .Majid Ghassemi. alma coat.

Course Description Template

Course Title	
Human Biology	
Course Code	
Semester / Year	
Semester 2024–2025	
Date of Course Description Preparation	
2025-3-19	
Available Attendance Modes	
In-Person	
Total Study Hours / Total Credit Units	
6 hours – 4 credits	
Course Coordinator(s)	
Name: Asst. Prof. Dr. Haider Sabah Kadhim **Email:** haiderskm@yahoo.com	
Course Objectives	
Course Objectives	The second branch of medical biology focuses on the classification of living organisms by analyzing the molecular foundations of evolution through comparative studies of the chemical environment of specific proteins, such as hemoglobin, enzymes, and hormones. It also emphasizes the study of lower organisms such as bacteria, viruses, parasites, fungi, and others, highlighting their presence and medical significance.
Teaching and Learning Strategies	
Strategy	1 **Presentation on screen:** PowerPoint

	2 **Daily exams:** Quizzes 3 **Reliance on classroom activity**

Course Structure

Weeks	**Subject**
1	Harmful Activity of Bacteria, (Bacterial Diseases in Human and Animals, Control of bacteria.
2	Kingdom of Protista ,Simple Algae, Harmful of Algae
3	Kingdom of Protista, Protozoans, Classification of Protozoa
4	Phylum of Sarcodina, Amoebae's, Phylum of Zoo mastigina, Trypanosome, Giardia
5	Phylum of Sporozoa, Plasmodium
6	Kingdom of Fungi, Classification, Reproduction
7	Harmful Activities of Fungi
8	Yeast and Yeast like Fungi, Characteristic and Classification, Candida.
9	Kingdom of Animals, Classification, Invertebrates and Vertebrates, Importance to Human Diseases
10	Human Bodies, Protection, Support and Locomotion
11	Human Body Defense (Immunity, Antigen, Antibody), Hormones, Enzymes
12	Helminths, Characteristics and Classification.
13	Flat Worms, Round Worms, Classification, Harm full Activities to Human.
14	Management of industrial, agricultural and medical waste
15	Scientific Methods , Steps and Examples of Scientific Methods

Approved References Prof. Gonsalves, Biology 25: Human Biology, Los Angeles City College, Loosely Based on Mader's Human Biology, 7th edition.

Course Description Template

Course Title
Practical Human Biology
Course Code
Semester / Year
Second Semester / First Stage / 2024–2025
Date of Course Description Preparation
21/3/2025

Available Attendance Modes
In person attendance
Total Study Hours / Total Credit Units
15 practical / 15 theoretical / 4 credit units
Course Coordinator(s)
Name: Assistant Lecturer Noor Loay Mohammed **Email:** nanoosheloay1967@gmail.com

Course Objectives	
Course Objectives	Identifying types of organisms through analyzing the molecular foundations of evolution by comparing the chemical environment of specific proteins such as hemoglobin, enzymes, and hormones. Studying microorganisms, including bacteria, viruses, parasites, and fungi. Focusing on the presence of these organisms and their medical importance.

Teaching and Learning Strategies	
Strategy	Teaching the curriculum theoretically by presenting the material to students while encouraging their participation. Teaching the material practically using laboratory equipment and tools. Engaging students in applying the material practically in the laboratory. Conducting implicit (formative) assessments during the lecture. Activating assessment of the material in the lecture following its explanation to reinforce and consolidate the content, as well as to evaluate the effectiveness of the material for students.

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
1	5	Harmful Activity of Control of ‹Bacteria bacteria	Bacteria and bacterial diseases in human and animals	Theoretical and Practical Explanation	Discussion and Exam
2	5	Simple Algae, Harmful of Algae	Kingdom of Protista		Discussion and Exam
3	5	Protozoans, Classification of Protozoa	Kingdom of Protista	Theoretical and Practical Explanation	Discussion and Exam
4	5	Amoebae's, ‹Trypanosome, Giardia	Phylum of Sarcodina,, Phylum of Zoomastigina	Theoretical Explanation	

5	5	Plasmodium	Phylum of Sporozoa		Discussion and Exam
6	5	Classification of Fungi , Reproduction	Kingdom of Fungi	Theoretical and Practical Explanation	Discussion and Exam
7	5	Harmful Activities of Fungi	Kingdom of Fungi	Theoretical and Practical Explanation	Discussion and Exam
8	5	Yeast and Yeast like Fungi, Candida	Characteristic and Classification of Fungi	Theoretical Explanation	Discussion and Exam
9	5	Invertebrates and ،Vertebrates Importance to Human Diseases	Kingdom of Animals, Classification	Theoretical Explanation	Discussion and Exam
10	5	Protection of human bodies , Support and Locomotion	Human Bodies	Theoretical and Practical Explanation	Discussion and Exam
11	5	Immunity, Antigen, ،Antibody), Hormones Enzymes	Human Body Defense		
12	5	Characteristics and Classification of Helminths	Helminths	Theoretical Explanation	Discussion and Exam
13	5	Classification of Flat Worms and Round Worms , Harm full .Activities to Human	Flat Worms, Round Worms	Theoretical Explanation	Discussion and Exam
14					
15	5	Agricultural and medical waste	Management of industrial	Theoretical and Practical Explanation	Discussion and Exam
	5	Steps and Examples of Scientific Methods	Scientific Methods	Theoretical Explanation	Discussion and Exam

				Theoretical Explanation Theoretical Explanation Theoretical Explanation	Discussion and Exam Discussion and Exam
Course Assessment					
Distributing the grade out of 100 based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly exams, written tests, reports, etc.					
Learning and Teaching Resources					
Prescribed Textbooks (if available)					
Main References (Sources)					Prof. Gonsalves, Biology 25: Human Biology, Los Angeles City College, Loosely Based on Mader's Human Biology, 7th edition.
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)					
Electronic References and Internet Websites					

Course Description Template

Course Title	
Practical Laboratory Equipment	
Course Code	
Semester / Year	
First / First Stage / 2024–2025	
Date of Course Description Preparation	
2025/4/ 9	
Available Attendance Modes	
In person	
Total Study Hours / Total Credit Units	
Practical: 30 hours / 2 credit units	
Course Coordinator(s)	
Name: Asst. Lecturer Asmaa Jalil Alawi Email: asmajalel77@gmail.com	
Course Objectives	
Course Objectives	□ Identify the types of laboratory equipment and their uses in chemical, physical, and biological analyses. □ Understand the operating principles of each device, including how to operate and perform basic maintenance. □ Follow laboratory safety procedures when handling various equipment. □ Accurately interpret readings and results obtained from these instruments. □ Be prepared for professional work in laboratories, whether in medical, environmental, industrial, or

	research fields
Teaching and Learning Strategies	
Strategy	▯ Teaching the practical curriculum by presenting the material to students while encouraging their active participation. ▯ Delivering the content through hands-on use of laboratory equipment. ▯ Engaging students in applying the material practically. ▯ Conducting implicit (formative) assessments during the lecture. ▯ Administering a follow-up test in the lecture after the material is explained to reinforce understanding and evaluate the effectiveness of the content among students.

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
4-1	6	Types Of cabinet , principle &uses, incubator, types of incubator ,principle& uses,care of incubator, pipetters ,Bunsen burner ,water bath& dry oven ,principle &uses tutorial sheet	Microbiological safety cabinet	Practical and Theoretical Explanation	Discussion and **Examination**
6- 5	6		Sterilization& econtamination	Practical and Theoretical Explanation	Discussion and **Examination**
7-9	6	Autoclave Principle& uses Care and safety Tutorial sheet	lecular biology equipment	Practical and Theoretical Explanation	Discussion and **xamination**
		General introduction PCR machine Hybridization equipment DNA sequencing	Automated analyzers Automated	Practical and Theoretical Explanation	Discussion

10-13	6	machine UV transilluminator Care& safety Tutorial sheet	analysers	Practical and Theoretical Explanation	and **Examination** Discussion d **Exa**mination
14-15	6	Balances, microtomes and principle& uses Sahli method and drubikin method			
Course Assessment					
Distributing the grade out of 100 based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly exams, written tests, reports, etc.					
Learning and Teaching Resources					

Course Description Principle

Course Title
Computer Principle
Course Code
Semester / Year
Second Semester / Second Stage / 2024–2025
Date of Course Description Preparation
21/3/2025
Available Attendance Modes
In-Person
Total Study Hours / Total Credit Units
30 Practical Hours / 15 Theoretical Hours / 2 Credit Units
Course Coordinator(s)

Name: Asst. Lecturer Na'ma Hussein Hameed **Email:** aa23329@gmail.com	
Course Objectives	
Course Objectives	Deliver theoretical content by presenting the material and encouraging student participation. Teach practical content through hands-on use of computers. Engage students in applying the material practically using computers. Conduct formative (implicit) assessments during lectures. Administer follow-up assessments in subsequent lectures to reinforce material and evaluate student comprehension and the effectiveness of instruction.
Teaching and Learning Strategies	
Strategy	Teaching the curriculum theoretically by presenting the material to students while encouraging student participation. Teaching the subject practically using a computer. Having the student apply the subject matter practically using the computer. Conducting implicit (formative) assessments during the lecture. Administering a test on the material in the lecture following its explanation to reinforce and consolidate the content, as well as to evaluate its effectiveness for the students.

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
1	3	What Is a Network? Types of Networks and Basic Network	Security and Networks	Theoretical and Practical Explanation	Discussion and Exam
2	3	Components	Security and Networks		Discussion
3	3	Network Security Fundamentals and Understanding Network	E-Commerce	Theoretical and Practical Explanation	and Exam
4	3	Concepts of Electronic Banking Services	Computer Diagnostics and Repair	Theoretical Explanation	Discussion and Exam
5	3	Identifying and Resolving Common	Computer Troubleshooting		Discussion and Exam

6	3	Hardware and Software Issues Faced by Computer Users	and Repair Introduction to Artificial Intelligence	Theoretical and Practical Explanation	Discussion and Exam
7	3	Essential Techniques and Tools for Troubleshooting and Problem	Introduction to Artificial Intelligence	Theoretical and Practical Explanation	Discussion and Exam
8	3	"**Definition of** Artificial Intelligence, History of AI, and AI Techniques and Approaches	The Role of Artificial Intelligence in Modern Smartphones	Theoretical Explanation	Discussion and Exam
9	3	"Key Characteristics of Artificial Intelligence, Benefits of AI, and Ethical Challenges and Considerations	The Role of Artificial Intelligence in Modern Smartphones	Theoretical Explanation	Discussion and Exam
10	3	"AI-Powered Mobile Technologies and Virtual Assistants (Siri, Google Assistant, Alexa)	Artificial Intelligence Applications and Tools	Theoretical and Practical Explanation	Discussion and Exam
11	3	Adaptive Learning and Real-Time Translation Services	Artificial Intelligence Applications and Tools	Theoretical and Practical Explanation	Discussion and Exam
12	3	An Overview of Artificial Intelligence Applications in Various Industries, Education, and Healthcare	Artificial Intelligence Applications and Tools	Theoretical and Practical Explanation	Discussion and Exam
13	3	The Use of Artificial Intelligence in Transportation, Marketing, and Advertising	Artificial Intelligence Applications and Tools	Theoretical Explanation	Discussion and Exam
14	3	"The Use of Artificial Intelligence in Business, Robotics, and Automation Technologies	Artificial Intelligence and Society	Theoretical Explanation	Discussion and Exam
`15	3	How Artificial Intelligence Affects	Ethical Challenges in Artificial Intelligence	Theoretical Explanation	Discussion and Exam

		Society, International Relations, and the Future of Humanity AI Ethics, Privacy and Surveillance, and the Impact of AI on the Job Market Future Trends in Artificial Intelligence: Recent Research and Emerging Technologies	The Future of Artificial Intelligence	Theoretical Explanation Theoretical Explanation Theoretical Explanation	Discussion and Exam Discussion and Exam

Course Assessment
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.

Learning and Teaching Resources	
□ Required textbooks (prescribed curriculum, if available)	
□ Main references (sources)	1. Graham Brown, David Watson, *Cambridge IGCSE Information and Communication Technology*, 3rd Edition (2020). 2. Alan Evans, Kendall Martin, Mary Anne Poatsy, *Technology In Action Complete*, 16th Edition (2020). 3. Ahmed Banafa, *Introduction to Artificial Intelligence (AI)*, 1st Edition (2024). 4. Curtis Frye & Joan Lambert, *Microsoft Office 2019 Step by Step*, 1st Edition. 5. Al-Khadr Ali Al-Khadr, *Fundamentals of Computers*, 2016. 6. Dr. Adel Abdulnour, *Introduction to the World of Artificial Intelligence*, 2005.
□ Recommended supplementary books and references (scientific journals, reports, etc.)	

□ Electronic references and internet websites	
Course Title	
Human Rights and Democracy	

Course Description Template

Course Code
Semester / Year
First Semester / 2024–2025
Date of Course Description Preparation
2025/3/24
Available Attendance Modes
In person attendance
Total Study Hours / Total Credit Units
2 hours per week / 2 credits
Course Coordinator(s
Name: Asst. Lecturer Nawras Salman Abdullateef **Email:** nawras.s.abdullateef@uruk.edu.iq
Course Objectives

Course objectives	1 Introduce students to the concept of human rights, their significance, scope, and essential components, as well as the ongoing need for them. 2 Highlight the historical development of various human rights and connect them to modern and contemporary contexts. 3 Equip students with a clear understanding of the fundamental principles of human rights. 4 Develop students' ability to keep pace with advancements and current issues in the field of human rights.
Teaching and Learning Strategies	
Strategy	**1** Deliver face-to-face lectures supported by modern technological tools. 2 Implement participatory classroom learning, encouraging active student engagement and expression of ideas. 3 Utilize interactive teaching methods, including open dialogue and structured discussions. 4 Apply case-based learning, including reviewing library research and exploring up-to-date online information relevant to the course material.
Course Structure	

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method

1	2	Chapter One: The Conceptual Framework of Human Rights	Chapter One: The Conceptual Framework of Human Rights	Lectures, theoretical lessons, discussions, and case studies	Direct questioning and oral examinations
2	2	Chapter One: Causes of Human Rights Violations	Chapter Two: Causes of Human Rights Violations	Lectures, theoretical lessons, discussions, and case studies	Direct questioning and oral examinations
3	2	Chapter Two: Human Rights in the Civilization of Mesopotamia	Chapter Three: Human Rights in the Civilization of Mesopotamia	Lectures, theoretical lessons, discussions, and case studies	Direct questioning and oral examinations
4	2	Chapter Three: Rights in International and National Charters	Chapter Four: Human Rights in International and National Charters	Lectures, theoretical lessons, discussions, and case studies	Direct questioning and oral examinations
5	2	Chapter Three: Human Rights in National Charters	Chapter Five: Human Rights in National Charters	Lectures, theoretical lessons, discussions, and case studies	Direct questioning and oral examinations
6	2	Chapter Four: Means of Protecting Human Rights	Chapter One: The Conceptual Framework of Human Rights	Lectures, theoretical lessons, discussions, and case studies	Direct questioning and oral examinations
7	2	**Monthly Exam**			
8	2	Chapter Four: The Principle of Separation	Chapter Four: The Principle of Separation of	Lectures, theoretical lessons, discussions, and	Direct questioning and oral examinations

		of Powers	Powers	case studies	
9	2	Chapter Five: Generations of Human Rights	Chapter Five: Generations of Human Rights	Lectures, theoretical lessons, discussions, and case studies	Direct questioning and oral examinations
10	2	Chapter Six: The Internet and Human Rights	Chapter Six: The Internet and Human Rights	Lectures, theoretical lessons, discussions, and case studies	Direct questioning and oral examinations
11	2	Chapter Six: Refugees and Human Rights	Chapter Six: Refugees and Human Rights	Lectures, theoretical lessons, discussions, and case studies	Direct questioning and oral examinations
12	2	Chapter Seven: Fundamental Rights and Duties of Citizenship	Chapter Seven: Fundamental Rights and Duties of Citizenship	The lecture and group discussions.	Direct questions
13	2	Chapter Seven: Corruption and Methods of Combating It	Chapter Seven: Corruption and Methods of Combating It	The lecture and group discussions.	Discussions and questions
14	2	Chapter Seven: The Concept of Corruption	Chapter Seven: The Concept of Corruption	Lectures, theoretical lessons, discussions, and case studies	Direct questioning and oral examinations
15	2	Chapter Seven: Elections	Chapter Seven: Elections		
Course Assessment					
Grade Distribution out of 100 Based on Student Tasks, such as daily preparation, daily, oral, monthly, and written exams, reports, etc.: **Daily Preparation** = 5 marks, **Daily and Oral Exams** = 5 marks, **Monthly Exams** = 10 marks (based on two exams) The student earns a **cumulative score (coursework)** out of **30 marks** •					

The **final exam** is out of **70 marks** •	
Learning and Teaching Resources	
Required Textbooks (Prescribed Curriculum, if available)	*Democracy and Human Rights Book, 2023*
Main References (Sources)	*Democracy and Human Rights Book, 2023*
Recommended Supplementary Books and References (Scientific Journals, Reports, etc.)	Research papers, journals, and information technology resources via the Internet, according to the nature of the assigned topics
Electronic References and Internet Websites	All materials related to the field of risk management and insurance from internet websites

Course Description Template

1.Course Title
Arabic Language
2.Course Code
3. Semester / Year
(Second / Academic Year (2024–2025)
4. Date of Course Description Preparation
3 for the Academic Year (2024–2025)25
5. Available Attendance Modes
Classrooms (In-Person Attendance)
6. Total Study Hours / Total Credit Units
30 hours at a rate of 2 hours per week
7. Course Coordinator(s)
Name: Asst. Lecturer Nawras Salman Abdullateef **Email:** nawras.s.abdullateef@uruk.edu.iq

1. Course Objectives	
Course Objectives	Correct pronunciation and accurate writing free from spelling and stylistic errors, and familiarity with Arab . literary heritage

2.Teaching and Learning Strategies	
Strategy	A. Cognitive Objectives Understanding the levels of Arabic language proficiency among students. B. Course-Specific Skill Objectives Ability to comprehend the development of linguistic concepts. Teaching and Learning Methods Lectures Discussions Question-based engagement Assessment Methods Dialogues and discussions Quizzes

2. Course Structure					
Week	**Hrs**	**Intended Learning Outcomes**	**Unit or Topic Title**	**Teaching Method**	**Assessment Method**
First Second	2	A Qur'anic text	Qur'anic texts	Lectures, theoretical lessons, discussions, and case studies	Written and oral exams and discussions
Third	2	Punctuation marks	Punctuation marks and writing numbers	Lectures, theoretical lessons, discussions, and case studies	Written and oral exams and discussions
Fourth	2	Number and counted noun (*al-ʿadad wa-l-maʿdūd*)	Writing the), ءhamzah (and the letters) and ظŻā' ( )ضDād (	Lectures, theoretical lessons, discussions, and case studies	Written and oral exams and discussions
Fifth	2	Dictation (Spelling)	Writing the), اlong alif (alif maqṣūrah), the tied ى( ), and hā' ةtā' ( )ه(	Lectures, theoretical lessons, discussions, and case studies	Written and oral exams and discussions
Sixth	2	Types of alif and tā'	Words inflected with diacritical marks (ḥarakāt) and words inflected with letters	Lectures, theoretical lessons, discussions, and case studies	Written and oral exams and discussions
Seventh	2	Syntactic analysis (*iʿrāb*)	The subject (al-mubtada') and the predicate (al-khabar)	Lectures, theoretical lessons, discussions, and case	Written and oral exams and discussions

				studies	
Eighth		Monthly Exam			
Ninth	2	Defective verbs (*al-afʿāl al-nāqiṣah*)	**Kāna and its s**isters The six particles**:** *), إنّInna (* *), أنّAnna (* *Kaʾanna* *), Layta كأنّ(* *), Laʿalla ليت(* *), Lākinna لعلّ(* *لكنّ(*	Lectures, theoretical lessons, discussions, and case studies	Written and oral exams and discussions
Tenth	2	Particles resembling verbs (*al-ḥurūf al-mushabbahah bi-l-fiʿl*)	Syntax: Constructed (binyāʾ) vs. Inflected (iʿrāb) forms	Lectures, theoretical lessons, discussions, and case studies	Written and oral exams and discussions
Eleventh	2	Formation of the past tense verb and the imperative verb	Syntax and inflection (continued)	tures, theoretical ons, discussions, and case studies	Written and oral exams and discussions
Twelfth	2	Formation of the present tense verb	ʿAmr ibn Kulthūm – as a model	Lectures, theoretical lessons, discussions, and case studies	Written and oral exams and discussions
Thirteenth	2	A pre-Islamic text	Abū al-ʿAlāʾ al-Maʿarrī – as a model	Lectures, theoretical lessons, discussions, and case studies	Written and oral exams and discussions
ourteenth	2	An Abbasid-era text	Al-Yāb – as a model	Lectures, theoretical lessons, discussions, and case studies	Written and oral exams and discussions
Fifteenth	2	A modern text		Lectures, theoretical lessons, discussions, and case studies	Written and oral exams and discussions
First	2	Review of previous chapters Second monthly test			

2.Periodic Evaluation

ade Distribution out of 100 Based on Assigned Student Tasks
ch as daily preparation, oral exams, monthly tests, written exams, reports, etc.

2. Learning and Teaching Resources	
Required textbooks (prescribed curriculum, if available)	Arabic Language – Basic Skills Dr. Ahmed Hussein Jarallah
Main references (sources)	The Holy Qur'an
Recommended supplementary books and references (scientific journals, reports, etc.)	The Holy Qur'an / Selected books on language, literature, novels, and stories
Electronic references and websites	Internet websites

Course Description Template

Course Title:	
Medical Parasitology 1	
Course Code	
: Semester / Year	
First Semester / 2024–2025	
:Date of Course Description Preparation	
10.4.2025	
: Available Attendance Modes	
In-person lectures	
Total Study Hours / Total Credit Units	
30 theoretical hours / 60 practical hours / Number of units: 4	
Course Coordinator(s)	
Name: Prof. Dr. Mohammed Kadhem Mohammed **Email:** prof.dr.mohammedkazem@uruk.edu.iq	
Course Objectives	
Course Objectives	1- Describe common parasitic diseases and life-threatening conditions caused by pathogenic protozoa in terms of pathogenesis, clinical symptoms, and laboratory diagnosis. 2- Acquire practical skills for diagnosing parasites in tissue sections.

	3- Use the microscope to identify parasitic stages in blood, urine, stool, and tissue samples.

Teaching and Learning Strategies	
Strategy	Teaching the theoretical curriculum by explaining the material to ıdents and encouraging student participation. Teaching the subject practically using microscopes, slides, and parasitic samples. The student, either individually or in small groups, performs some ıgnostic assistance procedures such as staining samples or tissue ctions. Conducting weekly quizzes in both theoretical and practical classes. Sharing prepared videos by the course instructor for each lecture, ghlighting the key points.

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
1	2	General characteristics of protozoa: diversity, morphology, habitats, reproduction	protozoa	Theoretical and Practical Explanation	Discussion and Exam
2	2	Types of parasites, types of hosts, host-parasite relationship	protozoa	Theoretical and Practical Explanation	Discussion and Exam
3	2	Entamoeba histolytica (Amoebic dysentery)	protozoa	Theoretical and Practical Explanation	Discussion and Exam
4	2	Non-pathogenic amoebae	protozoa	Theoretical and Practical Explanation	Discussion and Exam
5	2	Free-living amoebae	protozoa	Theoretical and Practical Explanation	Discussion and Exam
6	2	Flagellates: Giardia	protozoa	Theoretical	Discussion

				and Practical Explanation	and Exam
7	2	Flagellates: Trichomonas vaginalis and related species	protozoa	Theoretical and Practical Explanation	Discussion and Exam
8	2	Flagellates: Cutaneous leishmaniasis	protozoa	Theoretical and Practical Explanation	Discussion and Exam
9	2	Flagellates: Visceral leishmaniasis	protozoa	Theoretical and Practical Explanation	Discussion and Exam
10	2	Flagellates: Trypanosoma – African sleeping sickness	protozoa	Theoretical and Practical Explanation	Discussion and Exam
11	2	**Flagellates: Chagas disease**	protozoa	Theoretical and Practical Explanation	Discussion and Exam
12	2	**Ciliates: Balantidium coli**	protozoa	Theoretical and Practical Explanation	Discussion and Exam
13	2	**Apicomplexa (Apicomplexans)**	protozoa	Theoretical and Practical Explanation	Discussion and Exam
14	2	**Malaria**	protozoa	Theoretical and Practical Explanation	Discussion and Exam
15	2	**Malaria: General discussion**	protozoa	Theoretical and Practical Explanation	Discussion and Exam
Course Assessment					
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.					

Learning and Teaching Resources	
Required Textbooks (Official Curriculum, if available)	Paniker, C.K.J. and Ghosh, S. (2018) Paniker's Textbook of Medical Parasitology. Jaypee Brothers Medical Publishers, Inde.
(Main References (Sources)	
Recommended Supplementary Books and References (Scientific journals, reports, etc.)	
ectronic References and Internet Websites	

Course Description Template

Course Title:	
Medical Parasites and Insects	
Course Code	
Semester / Year	
Second Semester / 2024–2025	
:Date of Course Description Preparation	
10.4.2025	
: Available Attendance Modes	
In-Person Lectures	
Total Study Hours / Total Credit Units	
Instructional Hours: – Theory: 30 hours,– Practical: 60 hours, **Total Credit Units:** 4	
Course Coordinator(s)	
Name: Prof. Dr. Mohammed Kadhem Mohammed **Email:** prof.dr.mohammedkazem@uruk.edu.iq	
Course Objectives	
Course Objectives	1.**Des**cribe common parasitic diseases and life–threatening conditions caused by helminths and protozoa in terms of .pathogenesis, clinical symptoms, and laboratory diagnosis 2. Describe common diseases caused by medically important .arthropods

	3. Acquire practical skills for diagnosing parasites in tissue .sections 4. Use the microscope to identify parasitic stages in blood, .urine, stool, and tissue samples

Teaching and Learning Strategies	
Strategy	1 Teaching the theoretical curriculum by explaining the material to students and encouraging their active participation. 2 Teaching the subject practically using microscopes, slides, and parasitic samples. 3 Students, either individually or in small groups, perform supporting diagnostic procedures such as staining of samples or tissue sections. 4 Weekly short quizzes are conducted in both theoretical and practical sessions. 5 Lecture videos prepared by the course instructor are shared for each session, highlighting the key points discussed.

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
1	2	**General characteristics of helminths**	Tapeworms	heoretical and Practical Explanation	Discussion and Exam
2	2	**General characteristics of tapeworms**	Tapeworms	heoretical and Practical Explanation	Discussion and Exam
3	2	Beef tapeworm (*Taenia saginata*)	Tapeworms	heoretical and Practical Explanation	Discussion and Exam
4	2	Pork tapeworm (*Taenia solium*)	matodes (Flukes)	heoretical and Practical Explanation	Discussion and Exam
5	2	Dwarf tapeworm (*Hymenolepis nana*)	matodes (Flukes)	heoretical and Practical Explanation	Discussion and Exam
6	2	Rat tapeworm (*Hymenolepis diminuta*)	Roundworms (Nematodes)	heoretical and Practical Explanation	Discussion and Exam
7	2	Fish tapeworm (*Diphyllobothrium latum*)	Roundworms (Nematodes)	heoretical and Practical Explanation	Discussion and Exam
8	2	Flea tapeworm (*Dipylidium*	Roundworms (Nematodes)	heoretical and Practical	Discussion and Exam

		caninum)		Explanation	
9	2	Hydatid cyst worm (*Echinococcus granulosus*)	Roundworms (Nematodes)	eoretical and Practical Explanation	Discussion and Exam
10	2	Multilocular hydatid worm (*Echinococcus multilocularis*)	Roundworms (Nematodes)	eoretical and Practical Explanation	Discussion and Exam
15-11	10	General characteristics of flukes (trematodes)	Roundworms (Nematodes)	eoretical and Practical Explanation	Discussion and Exam

Course Assessment	
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.	
Learning and Teaching Resources	
Required Textbooks (Official Curriculum, if available)	Paniker, C.K.J. and Ghosh, S. (2018) Paniker's Textbook of Medical Parasitology. Jaypee Brothers Medical Publishers, Inde.
ain References (Sources)	
Recommended Supplementary Books and References (Scientific journals, reports, etc.)	
ctronic References and Internet Websites	

Course Description Template

Course Title
Pathogenic Bacteria I
Course Code
Semester / Year
First Semester / Second Year / 2024–2025
Date of Course Description Preparation
2025/4/11
Available Attendance Modes
In- person Lecture
Total Study Hours / Total Credit Units
30 Practical Hours / 15 Theoretical Hours / 4 Credit Units
Course Coordinator(s)
Name: Prof. Dr. Ali Shalash Sultan **Email:** alishalash58@gmail.com

Course Objectives	
Course Objectives	The student should be able to identify pathogenic microorganisms, understand the diseases they cause, learn how to diagnose them, and apply appropriate methods for their control."
Teaching and Learning Strategies	
Strategy	Theoretical instruction is delivered by presenting the material to students while encouraging their active participation. Practical instruction is conducted using a data show projector and a laptop. Implicit assessments are carried out during the lecture, along with short quizzes. Assessment of the material is activated in the lecture following the explanation to reinforce learning and evaluate the effectiveness of the content for students..

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
1	2	Introduction	Classification of bacteria	Theoretical and Practical Explanation	Discussion and Exam
2	2	Structure &function of bacterial components	Growth &death of bacteria,culturing of bacteria	Theoretical and Practical Explanation	Discussion and Exam
3	2	Bacterial physiology	Nutrient cycles and regulation		
4	2	Bacterial genetics	Genetic material &plasmid; replication ,mutation etc……	Theoretical Explanation	Discussion and Exam
5	2	Microbial virulence	Pathogenesis and microflora	Theoretical and Practical Explanation	Discussion and Exam
6	2	Chemotherapy bacterial	Vaccination		
7	2	Gram staining	G.positive staph.strep.and enterococcus	Theoretical and Practical Explanation	Discussion and Exam
8 و9	2	Gram stain	Spore forming	Theoretical Explanation	Discussion and Exam
10 & –11					
12-13					

14-15	2	. Gram stain	bacilli ,clostridium and bacillus Gram positive non spore forming bacilli (listeria ,corynebacterium)	Theoretical Explanation Theoretical and Practical Explanation Theoretical and Practical Explanation	Discussion and Exam Discussion and Exam Discussion and Exam

Course Assessment

Grade Distribution (Out of 100):
Grades are allocated based on the student's assigned tasks, including daily preparation, quizzes, oral and written exams (daily and monthly), practical performance, reports, and other requirements.
Semester Work (40%):, – 25% Theory, – 15% Practical and **Final Exam (60%):**
– 40% Theory
– 20% Practical

Learning and Teaching Resources

Required Textbooks (Official Curriculum, if available) (	The short text book of medical microbiology (including parasitology)by Jaypee brothers medical publishers tenth edition ,2020.
(Main References (Sources)	Medical microbiology Twenty –sixth edition by Jawetz ,Melnick and Adelbergs MC Graw medical Hill ,2013
Recommended Supplementary Books and References (Scientific journals, reports, etc.)	Essenttials of medical microbiology Rajesh ,Bhatia ,4th edition ,2008
Electronic References and Internet Websites	

Course Description Template

Course Title
Pathogenic Bacteria 2
Course Code
Semester / Year
Second Semester / Second Stage / 2024–2025
Date of Course Description Preparation
2025/4/11
Available Attendance Modes
In-Person Lectures
Total Study Hours / Total Credit Units
30 Practical / 15 Theoretical / 4 Credits
Course Coordinator(s)
Name: Prof. Dr. Ali Shalash Sultan Email: alishalash58@gmail.com

Course Objectives	
Course Objectives	The student should be able to understand pathogenic microorganisms, how to diagnose them, the diseases they cause, and how to control them.

Teaching and Learning Strategies	
Strategy	□ Theoretical teaching of the curriculum through presenting the material to students and encouraging their participation. □ Practical teaching of the material using a data show projector and a laptop. □ Conducting implicit (formative) assessments during lectures, as well as short quizzes. □ Reinforcing the material through assessments in the lecture following the explanation, to consolidate understanding and evaluate the effectiveness of the material for the students.

Course Structure

Week	Hours	Intended Learning	Unit or Topic	Teaching	Assessment

		Outcomes (ILOs)	Title	Method	Method
1	2	Neisseria	Gram negative bacteria	Theoretical and Practical	Discussion and Exam
	2	Enterobactericeae	E coli, klebsiella,	Explanation	
	2		proteus ,		Discussion
2	2	Bacterial physiology	pseudomonas,		and Exam
	2		acetobacter, shigella and salmonella	Theoretical and	
3	2	Yersinia	Nutrient cycles and regulation	Practical Explanation	Discussion and Exam
4			Diseases caused by , mutation etc……		
	2	Vibrio		Theoretical	Discussion
			Pathogenesis and	Explanation	and Exam
5			diseases caused by ; diagnosis and		
	2	Campylobacter and	treatments	Theoretical	
	2	helicobacter		and	Discussion
6		Hemophilusand,bortedella	Diseases, diagnosis	Practical	and Exam
	2	and brucella	and treatments	Explanation	
7			Diseases, diagnosis and treatments		
				Theoretical	
	2	.chlamydia and		and	Discussion
8-9		spirochates		Practical	and Exam
			Treponema pallidum	Explanation	
10- 11		Mycobacterium		Theoretical	
	2			Explanation	Discussion
			Identification and		and Exam
12-13	2	Mycoplasma &Rickettsia	culturing and diagnosis		Discussion and Exam
			Identification, and		
14-15			disease caused by	Theoretical	
				Explanation	
1					
				Theoretical and Practical Explanation	

Course Assessment

Grade Distribution (Out of 100):
The final grade is based on various tasks assigned to the student, such as daily preparation, quizzes, oral and written exams (daily and monthly), practical performance, reports, and others.
Semester Work (40%):
– 25% Theoretical,– 15% Practical
Final Exam (60%):
– 40% Theoretical,– 20% Practical

Learning and Teaching Resources

Required Textbooks (Official Curriculum, if available) (	The short text book of medical microbiology (including parasitology)by Jaypee brothers medical publishers tenth edition ,2020.
(Main References (Sources)	Medical microbiology Twenty –sixth edition by Jawetz ,Melnick and Adelbergs MC Graw medical Hill ,2013
Recommended Supplementary Books and References (Scientific journals, reports, etc.)	Essenttials of medical microbiology Rajesh ,Bhatia ,4th edition ,2008
Electronic References and Internet Websites	

Course Description Template

Course Title
Medical Bacteriology – Practical
Course Code

Semester / Year
Second Semester / Second Stage / 2024–2025
Date of Course Description Preparation
2025 /4 /11
Available Attendance Modes
In Person Lecture
Total Study Hours / Total Credit Units
30 Practical Hours
Course Coordinator(s)
Name: Assistant Lecturer Wazeera Younus Ibrahim Email: wazeera.younus.ibraheem@uruk.edu.iq

Course Objectives

Course Objectives	1 Practical training on the preparation of culture media 2 Bacterial culturing and microscopic examination for identification and diagnosis of bacteria 3 Training on laboratory diagnosis using modern techniques

Teaching and Learning Strategies

Strategy	Practical training on the isolation and laboratory diagnosis of bacteria using modern diagnostic techniques

Course Structure

Week	Hours	Intended Learning Outcomes	Unit or Topic Title	Teaching Method	Assessment Method
1 2-5 6-7 9-8 11-10 13-12 14 15	15	Morphology and laboratory diagnosis Selective media, differential media, biochemical , API, identification enteric bacteria		Theoretical Explanation nd practical Theoretical Explanation and practical Theoretical Explanation	Daily Exam Daily Exam Daily Exam

Course Assessment
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.

Learning and Teaching Resources	
Required Textbooks (Official Curriculum, if available) (	The Ministerial Curriculum Package
(Main References (Sources)	The Ministerial Curriculum Package
Recommended Supplementary Books and References (Scientific journals, reports, etc.)	The Ministerial Curriculum Package
Electronic References and Internet Websites	

Course Description Template

Course Title	
Human Physiology 2	
Course Code	
Semester / Year	
Second Semester / Second Stage / 2024–2025	
Date of Course Description Preparation	
09/05/2025	
Available Attendance Modes	
In-person lecture	
Total Study Hours / Total Credit Units	
30 Practical / 15 Theoretical / 2 Credits	
Course Coordinator(s)	
Name: Assistant Lecturer Hani Ghazi Mujbil Email: hanawy@gmail.com	
Course Objectives	
Course Objectives	– Understanding the functions of organs and vital systems in the human body. – Studying biological activities and metabolic processes in detail, which enables better understanding

	of laboratory tests and analyses. – Learning the normal values of laboratory tests and identifying abnormal levels and their possible causes.

Teaching and Learning Strategies

Strategy	– Theoretical instruction is delivered through explaining the course material using the available teaching aids and visual tools provided by the university. – Student participation is encouraged through academic discussions and the assignment of homework to reinforce learning. – Practical instruction takes place in the laboratory, where students are required to carry out laboratory tests themselves, enabling them to gain essential hands-on experience and to become familiar with the technical challenges of lab work. – Students are given the opportunity to apply their acquired skills by practicing course content in the university laboratories. – Field visits to public and private scientific institutions are organized to expose students to real-world professional environments. – Regular assessments are conducted to monitor student progress and to continuously update teaching methods to better serve the achievement of course objectives. – Short quizzes and material reviews are held in the lecture following the main explanation, in order to reinforce the content and evaluate both comprehension and the effectiveness of the teaching.

Course Structure

Week	Hours	Intended Learning Outcomes	Unit or Topic Title	Teaching Method	Assessment Method
01	3	**ChatGPT said: Female Reproductive System:** Function of the Female Reproductive Organs, Female Sex Hormones, Menstrual Cycle, Pregnancy and	Physiology of the Digestive System	Theoretical and Practical Explanation	Discussion and Exam
02	3		Physiology of the Digestive System	Theoretical and Practical Explanation	Discussion and Exam
03	3		Physiology of the Digestive System		
04	3		Physiology of the Urinary System	Theoretical Explanation	Discussion and Exam
05	3		Physiology of the Urinary System	Theoretical and Practical	Discussion and Exam

		Childbirth,		Explanation	
06	3	Lactation and Milk	Physiology of the Urinary System		
		Production,			Discussion
		Hormonal		Theoretical and	and Exam
		Fluctuations		Practical	
		and		Explanation	
07	3	Regulation.	Physiology of the Glands		Discussion
		Types of			and Exam
		Muscles and		Theoretical	
		Their	Reproductive Physiology	Explanation	
08	3	**Functions:**			
		Generation of			
		Action	Reproductive Physiology		
		Potential,			Discussion
09	3	Muscle			and Exam
		Contraction,		Theoretical	
		and the		Explanation	
		Sliding			
		Filament			Discussion
		Theory.	Physiology of the Muscular		and Exam
		Neuron:	System	Theoretical and	
		Types and		Practical	
10	3	Functions.	Physiology of the Muscular	Explanation	
		Central	System		Discussion
	3	**Nervous**			and Exam
		System:			
		Structure,		Theoretical and	
11	3	Function, and	Physiology of the Muscular	Practical	
		Clinical	System	Explanation	Discussion
		Significance.			and Exam
		Generation			
12		**of Action**	Physiology of the Nervous		
	3	**Potential,**	System		
		Neural			
13		**Conduction:**		Theoretical	
		Types and	Physiology of the Nervous	Explanation	
14	3	Speed.	System		Discussion
		Synapses:			and Exam
		Types and		Theoretical	
15	3	Functions.	Physiology of the Sensory	Explanation	
		Central	System		Discussion
		Nervous			and Exam
		System: Parts			
	3	and			
		Functions.		Theoretical	
		Spinal Cord:		Explanation	
		General			Discussion
		Function and			and Exam
		Neural			
		Responses.		Theoretical	

		Parts of the Nervous System: Types and Functions. **Classification and General Function. Special Sense Organs:** Types and General Functions.		Explanation Theoretical Explanation Theoretical Explanation	Discussion and Exam Discussion and Exam

Course Assessment
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.

Learning and Teaching Resources	
Required Textbooks (Official Curriculum, if available) (	
(Main References (Sources)	Britannica. 2025. "Neuroglia Biology." https://www.britannica.com/science/neuroglia. Healthline. 2025. "What Are Glands In The Body?" Healthline Media. https://www.healthline.com/health/endocrine-health/what-are-glands. Johns Hopkins Medicine. 2025. "Anatomy of The Urinary System." https://www.hopkinsmedicine.org/health/wellness-and-prevention/anatomy-of-the-urinary-system#: MNT. 2024, "What Are Hormones? Types And What They Do." MNT. https://www.medicalnewstoday.com/articles/what-are-hormones#hormone-decline. Oregon State University. 2025. "Accessory Organs In Digestion: The Liver, Pancreas, and Gallbladder. https://open.oregonstate.education/aandp/chapter/23-5-accessory-organs-in-digestion-the-liver-pancreas-and-gallbladder/. Wakim, Suzanne and Mandeep Grewal. 2014. "Accessory Organs of Digestion. LibreTexts Biology.
Recommended Supplementary Books and References (Scientific journals, reports, etc.)	

Electronic References and Internet Websites	

Course Description Template

Course Title	
Human Physiology	
Course Code	
Semester / Year	
First and Second Semesters / Second Stage / 2024–2025	
Date of Course Description Preparation	
11/4/2025	
Available Attendance Modes	
In-Person Practical Lectures	
Total Study Hours / Total Credit Units	
300 Practical Hours / 2 Credits	
Course Coordinator(s)	
Name: Assistant Lecturer Ghassan Ali Wardi Email: aghassan233@gmail.com	
Course Objectives	
Course Objectives	**General Objective:** To introduce the student to the components of body cells and the various components of blood, enabling them to prepare for their future professional practice. **Specific Objective:** The aim of studying physiology is to provide the student with knowledge and expertise in the field, including a comprehensive understanding of the physiological aspects and functions of the different organs and systems of the human body. It also includes practical training in laboratory tests used to detect diseases and infections that may affect humans.
Teaching and Learning Strategies	
Strategy	Presenting the material both theoretically and practically, while providing students with the opportunity to perform practical experiments and conduct the necessary laboratory tests and examinations for diagnostic purposes.

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
1	10	Introduction: Characters of a good technician. How to avoid contamination of the specimen and .technician		Theoretical and Practical Explanation	Discussion and Exam
2	10	Specimen: Type, collection, and preparation. Specimen identification. Lab reports: types and .writings		Theoretical and Practical Explanation	Discussion and Exam
3	10	Basic steps for drawing a blood specimen by venipuncture. Blood collection by skin puncture (capillary blood). Types of syringe used in blood collection.		Theoretical and Practical Explanation	Discussion and Exam
4	10	Patient care after .blood collection		Theoretical and Practical Explanation	Discussion and Exam
5	10	Repeat: blood .drawing		Theoretical and Practical Explanation	Discussion and Exam
6	10	Blood sample hemolysis: reasons and how to avoid. Blood coagulants: types and uses. (EDTA, Citrate,		Theoretical and Practical Explanation	Discussion and Exam

7		Oxalate, Heparin, (sodium fluoride		Theoretical and Practical	
	10	Specimen rejection: reasons and how to avoid. Types of anticoagulants used and their effect on		Explanation	Discussion and Exam
8	10	blood cell .morphology		Theoretical and	Discussion and Exam
	10	Blood separation into cells, plasma, and serum.		Practical Explanation	
9	10	Transport and storage of blood .sample			
10	10	Blood smear: preparation and importance		Theoretical and Practical	Discussion and Exam
11	10	Complete blood count: RBCs. Manual and electronic method		Explanation	
12	10	Complete blood count: WBCs. Manual and		Theoretical and Practical	Discussion and Exam
13	10	electronic method		Explanation	
	10	Repeat: Blood cell count		Theoretical Explanation and	Discussion and Exam
14		Determination of hemoglobin: cyanmethemoglobin method		practical	Discussion and Exam
15	10	Determination of hemoglobin: electronic method		Theoretical and Practical Explanation	Discussion and Exam

16	10	Repeat			
17	10	Urine sample: importance, method of collection, preparation, transport and storage		Theoretical and Practical Explanation	Discussion and Exam
18	10	Physical Examination of Urine Sample		Theoretical and Practical Explanation	Discussion and Exam
19	10	Microscopic Examination of Urine: The identification of Epithelial Cells, Blood Cells, crystals, casts, …. etc		Theoretical and Practical Explanation	Discussion and Exam
20	10	Microscopic Examination of Urine: The identification of Bacteria, Yeast, Mucus, Casts, ……. Etc.		Theoretical and Practical Explanation	Discussion and Exam
21	10	Repeat			
22	10	Chemical Examination of Urine			Discussion and Exam
23	10	Repeated		Theoretical and Practical Explanation	Discussion and Exam
24	10				
25	10				
26	10				
27	10	Semen Analysis: Type of Collection			

28 29 30	10	& Physical Examination Semen Analysis: Cell Counting Technique Semen Analysis: Motility, Viability, &Morphology. Repeat Semen Analysis. Stethoscope and its uses. Blood Pressure Repeated ESC Body Temperature		Theoretical and Practical Explanation Theoretical and Practical Explanation Theoretical and Practical Explanation Theoretical and Practical Explanation Theoretical and Practical Explanation Theoretical and Practical Explanation	Discussion and Exam Discussion and Exam Discussion and Exam Discussion and Exam Discussion and Exam Discussion and Exam Discussion and Exam

				Theoretical and Practical Explanation	
				Theoretical and Practical Explanation	
				Theoretical and Practical Explanation	
				Theoretical and Practical Explanation	
				Theoretical and Practical Explanation	
				Theoretical and Practical Explanation	
				Theoretical and Practical Explanation	
Course Assessment					

The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc .	
Learning and Teaching Resources	
Prescribed Textbooks (if available)	
Main References (Sources)	1- review of medical physiology. (2013) . William F. Ganong. 2- Esssentials of medical physiology. K Sembulingam, Prema Sembulingam 3-Concepts of human anatomy and physiology Kent M. Van (1989) 4- Human physiology from cell to system Lauralee Sher wood .(2004)
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	
Electronic References and Internet Websites	

Course Description Template

Course Title
Biostatistics
Course Code
Semester / Academic Year
Second Course
Date of Course Description Preparation
Available Attendance Modes
In person
Total Study Hours / Total Credit Units
Total Hours: 60 / Credits: 8
Name of Course Coordinator (if more than one, all should be listed)
Name: Assistant Professor Dr. Ankin Antranek Hayk Email: ankenhayk@uruk.edu.iq

Course Objectives	
Course Objectives	**Introducing the student to statistical concepts.** Enabling the student to identify types of data. Enabling the student to understand statistical measures and how to apply them to solve problems in various applications.
Teaching and Learning Strategies	
Strategy	Designing curricula aligned with accredited scientific standards and delivering theoretical lectures using presentation screens and internet-based programs.

Course Structure

Week	Hrs.	Intended Learning Outcomes s)	Unit or Topic Title	Teaching Method	Assessment Method

1	2	Knowledge	Def. Biostatistic , Statistics	In Person	Daily and Monthly Exams
2	2	Knowledge			
3	2	Knowledge	Type of data ,Sample , Population		Daily and Monthly Exams
4	2	Knowledge	Scientific method of research		
5	2	Knowledge	Example , Exercies		
6	2	Knowledge	Type of Random Sample		Daily and Monthly Exams
7	2	Knowledge			
8	2	Knowledge	Type of non random sample		Daily and Monthly Exams
9	2	Knowledge	Type of table		
10	2	Knowledge	Constract frequency dist.		Daily and Monthly Exams
11	2	Knowledge	Discrete and continuous variable		
12	2	Knowledge	Example , Exercies		Daily and Monthly Exams
13	2	Knowledge	easure of Central Tendency		
14	2	Knowledge	Mean , Quadratic , Harmonic , Geometric		Daily and Monthly Exams
15	2	Knowledge	Relation betw , een mean , median , mode		Daily and Monthly Exams
			H.W.		
			Mean ,Measures of Dispersion (Range , variance)		Daily and Monthly Exams
					Daily and Monthly

					Exams Daily and Monthly Exams Daily and Monthly Exams Daily and Monthly Exams Daily and Monthly Exams Daily and Monthly Exams

11.Course Assessment	
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.	
12. Learning and Teaching Resources .	
Prescribed Textbooks (if available)	**Biostatistics**, authored by Prof. Dr. Ziyad -Rawi **Statistics**, authored by Dr. Khasha' Al-wi **Statistics**, authored by Assistant ofessor Amir Hanna

Main References (Sources)	ayne W. Daniel : Bioststistics " Basic ncepts and methodology for the Health statistic سلسلة شوم sciences ' 9th Edition2010
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	
Electronic References and Internet Websites	Biostatistics 10th Edition

Course Description Template

Course Title
Arabic Language
Course Code
Semester / Year
Second Semester – Academic Year 2024/2025
Date of Course Description Preparation
2025 / 3 /20
Available Attendance Modes
In class
Total Study Hours / Total Credit Units
30 Total Hours / 2 Hours per Week / 2 Credit Units
Course Coordinator(s)
Name: Assistant Lecturer Nawras Salman Abdul-Latif Email: nawras.s.abdullateef@uruk.edu.iq
Course Objectives

Course Objectives	Introducing students to the fundamentals of the Arabic language Familiarizing students with Arabic grammar and syntax Developing cognitive and behavioral skills within the framework of the Arabic language Highlighting the vibrant humanistic dimension of this language among contemporary world languages Enabling students to achieve a good understanding of what they read and write

Teaching and Learning Strategies	
Strategy	Delivering lectures, using the method of explanation and clarification along with discussion and dialogue, and conducting quick quizzes.

Course Structure

Week	Hours	Intended Learning	Unit or Topic Title	Teaching Method	Assessment Method

		Outcomes (ILOs)			
1 2 3 4 6 7 8 9 10 11 12 13 14 15	one hour one hour one hour one hour one hour one hour one hour one hour one hour one hour one hour one hour one hour one hour		Qur'anic Expression: Grammatically and Rhetorically • The Poet Badr Shakir al-Sayyab • Primary and Secondary Case Endings in Arabic Grammar • The Nominal Sentence (Subject and Predicate) • "Inna" and Its Sisters • The Difference Between "Inna" and "Anna" • "Kana" and Its Sisters • The Five Verbs (Al-Afʿal Al-Khamsa) • Linguistic Errors • Synonyms and Antonyms • The Dual Form and Its Case Marking • Sound Masculine Plural • Sound Feminine Plural	Delivering a lecture Delivering a lecture Delivering a lecture Delivering a lecture Delivering a lecture Delivering a lecture Delivering a lecture Delivering a lecture Delivering a lecture Delivering a lecture Delivering a lecture	Questions and Answers Questions and Answers Questions and Answers Questions and Answers Questions and Answers Questions and Answers Questions and Answers Questions and Answers Questions and Answers Questions and Answers Questions and Answers

Course Assessment
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.
Learning and Teaching Resources

Required Textbooks (Official Curriculum, if available)	
Main References (Sources)	1 Sharḥ Ibn ʿAqīl ʿalā Alfiyyat Ibn Mālik *("Commentary of Ibn Aqil on Ibn Malik's Alfiyya")*

	2 The Most Important Rules of Arabic Spelling by Dr. Fares Abdul-Salam

Course Description Template

Course Title	
Histology 1	
Course Code	
Semester / Year	
First Semester of the Second Year	
Date of Course Description Preparation	
2025\3\24	
Available Attendance Modes	
In-person attendance	
Total Study Hours / Total Credit Units	
Weekly Hours: 2 (theoretical), 4 (practical) **Credit Hours:** 4	
Course Coordinator(s)	
Name: Rukia Mustafa Ali **Email:** rukia.ali196367@gmail.com	
Course Objectives	
Course Objectives	**Histology is a fundamental tool for students in medical specialties.** This course aims to introduce students to the basic types of cells and their classification based on the morphology of the cells that form tissues, as well as the primary function of these cells. Students will explore how these cells constitute the various tissues and organs of the human body through the examination of thin tissue sections under a light microscope.

Teaching and Learning Strategies	
Strategy	lectures are delivered using various presentation methods, including PowerPoint, videos, and quizzes

Course Structure

Week	Hours	Intended Learning Outcomes	Unit or Topic Title	Teaching Method	Assessment Method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		Introduction and overview of methods used in histology, Classification of Histology, Tissue preparation Overview of Cell structure & types Tissues: Concept and classifications of primary tissues Epithelial tissue: Simple Ep. T., Compound Ep. T. The glandular Tissues (The Glands) Connective and Supportive Tissue: Embryonic and adult C.T. Connective			

		Tissue proper (General C.T.) Cartilage, Histogenesis, Growth and repair of cartilage Bone & Histogenesis of Bone The Blood The haemopoietic organ (bone marrow), Formation of blood cells. Muscular tissue Nervous tissue: Overview of nervous system (CNS & PNS) Nervous system: the Nerve cells (neurons) and their classification Supporting cells of nervous system			
Course Assessment					
Grade Distribution out of 100: Coursework: 25 marks (theoretical) + 15 marks (practical), Practical, final					

exam: 25 marks, Theoretical final exam: 35 marks	
Learning and Teaching Resources	
Prescribed Textbooks (if available)	Lectures and activities within the lessons
Main References (Sources)	Basic histology
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	
Electronic References and Internet Websites	Medscape, UpToDate

Course Description Template

Course Title
Histology2
Course Code
Semester / Year
Second Semester / Second Year
Date of Course Description Preparation
2025\3\24
Available Attendance Modes
In-Person
Total Study Hours / Total Credit Units
6 hours per week (2 theoretical, 4 practical) / 4 Units
Course Coordinator(s)
Name: Ruqayya Mustafa Ali **Email:** rukia.ali196367@gmail.com
Course Objectives

Course Objectives	Histology is a fundamental tool for students in medical specialties. This course aims to introduce students to: The basic types of cells and their classification The study of the shape of the cells that form these tissues The primary function of these cells These cells constitute the various tissues and organs of the human body, and this is studied by examining thin tissue sections under a light microscope.
Teaching and Learning Strategies	
Strategy	"**D**elivering lectures using a variety of presentation methods, including PowerPoint, videos, and quizzes.

Course Structure

Week	Hours	Intended Learning Outcomes	Unit or Topic Title	Teaching Method	Assessment Method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		Circulatory system Lymphoid system - Lymphatic vessels - Lymph Lymphoid organs Respiratory system Digestive system/Part one - Oral cavity Digestive system/Part two - Gastrointestinal tracts Digestive system/Part three - Accessory glands 8-9 Urinary system Endocrine system Male			

		reproductive system Female reproductive system Sense organ The integumentary system – Skin			

Course Assessment	
Grade Distribution out of 100: Coursework: 25 marks (theoretical) + 15 marks (practical), Practical, final exam: 25 marks, Theoretical final exam: 35 marks	
Learning and Teaching Resources	
Prescribed Textbooks (if available)	Lectures and Activities within the Lessons
Main References (Sources)	Basic histology
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	
	Medscape, UpToDate

Course Description Template

Course Title
Immunology 1
Course Code
IMM04301
Semester / Year
2024/2025
Date of Course Description Preparation
2025/5/ 5
Available Attendance Modes
In-person

Total Study Hours / Total Credit Units
2 Theoretical, 4 Practical / 4 Units
Name of the Course Coordinator (if there is more than one, mention all names)
Name: Assistant Professor Dr. Dhekra Faleh Hassan **Email:** thf7551@gmail.com
Course Objectives

Course Objectives	• Definition of the immune system and its components... • Antibodies and antigens: their characteristics and types... • Specific (adaptive) immune response: its types and functions...

Teaching and Learning Strategies	
Strategy	Lectures and Questions

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
1	2	1 Understanding the components	Introduction to immune system	Lecture	Questions
3-2	2	of the immune	Cells and organs	Lecture	Questions
4-5	2	system			
6-7-8	4	2 Definition of antibodies	Antibody	Lecture	Questions
10-9	4	3 Definition of immunoglobulins	T-cell, activation, structure	Lecture	Questions
11	2	4 Understanding T cells			
12	4	5 Understanding B cells	B-cell activation	Lecture	Questions
13-14		6 Understanding the immune response	Immune response-Bacterial immune response	Lecture	Questions
15		7 Immune response to bacterial and viral infections			

Course Assessment

The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.	
Learning and Teaching Resources	
Prescribed Textbooks (if available)	Immunology /Kuby ……..8th ed.
Main References (Sources)	Essential of clinical immunology /Helen Chapel ….7th ed
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	Practical immunology /Hudson @Hay ….4th ed
Electronic References and Internet Websites	

Course Description Template

Course Title
Immunology 2
Course Code
IMM04302
Semester / Year
2024/2025 – Second Semester
Date of Course Description Preparation
2025/5/ 5
Available Attendance Modes
In-Person
Total Study Hours / Total Credit Units
2 Theoretical, 4 Practical / 4 Units
Name of the Course Coordinator (if there is more than one, mention all names)
Name: Assistant Professor Dr. Dhekra Faleh Hassan **Email:** thf7551@gmail.com

2. Course Objectives	
Course Objectives	1 The nature, components, characteristics, diversity, and functions

	of parts of the immune system. 2 Cultures and vaccines. 3 Medical conditions related to the immune system.

3.Teaching and Learning Strategies

Strategy	Lectures, Questions

4. Course Structure

Week	Hours	Intended Learning Outcomes	Unit or Topic Title	Teaching Method	Assessment Method
1	2	Complement system	Complement	Lecture	Questions
3-2	2		MHC	Lecture	
4	2	Major histocompatibility complex (MHC)	Cytokines@Mediators	Lecture	Questions
6-5	2		Hypersensitivity	Lecture	Questions
8-7	4				Questions
10-9	2	Cellular mediators Hypersensitivity	Transplantation: Introduction, types of graft rejection, immunosuppressive therapy of allograft rejection, immunology of xenogeneic transplantation, and organ transplantation	Lecture	Questions
12-11	2			Lecture	Questions
13	2		. Vaccines & Vaccination, definition, types, advantages & disadvantages.	Lecture	Questions
15-14	2		Immunodeficiencies : types, primary and secondary Immunodeficiency . TumorAnti–tumor immunity, types, immune defense against tumors.		

5. **Course Assessment**	
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.	
6. Learning and Teaching Resources	
Prescribed Textbooks (if available)	munology /Kuby ……..8th ed.
Main References (Sources)	sential of clinical immunology /Helen apel ….7th ed
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	actical immunology /Hudson @Hay ….4th ed
Electronic References and Internet Websites	

Course Description Template

Course Title	
HISTOPATHOLOGY	
Course Code	
Semester / Year	
2025/2024	
Date of Course Description Preparation	
1/4/2025	
Available Attendance Modes	
In-person (morning, evening)	
Total Study Hours / Total Credit Units	
4 hours / 3 credit units	
Course Coordinator(s)	
Name: Assistant Professor Dr. Ali Mohammed Abbood **Email:** ali.m.abbood@uruk.edu.iq	
Course Objectives	
Course Objectives	1 Providing the student with an expanded and up-to-date understanding of pathology. 2 Establishing a solid knowledge base in pathology and modern techniques to enable the student to keep pace with the medical community they will join after graduation in hospitals.

Teaching and Learning Strategies	
Strategy	Active learning, brainstorming, discussion system, and participation.

Course Structure

Week	Hours	Intended Learning Outcomes	Unit or Topic Title	Teaching Method	Assessment Method
1	2 hrs.	Questions during lecture and quizzes	Introduction	Power point	**Monthly exam Daily ttendance exam Classroom activity**
2			History of Pathology		
3			Cell Injury and Cell Death		
4			Inflammation		
5			Tissue Repair (Healing)		
6			Hemodynamic Disorders		
7			Cellular Adaptations of Growth and Differentiation		
8			Neoplasia		
9			Diseases of Immunity		
10			Nutritional Diseases		
11			Physical and Chemical Injuries		
12			Concretions		
13			Genetic Diseases		
14			Obstructive Circulatory Disturbances		
15			General Pathology of Infectious Diseases Index		
1			Environment and life-style related pathology		
2			Nutritional Diseases		
3			Genetic Diseases		
4			Clinical Aspects of Neoplasia		

5			Molecular Basis of Cancer		
6			Diseases Caused by Viruses		
7			Immunopathology Including Amyloidosis		
8			Genetic Diseases		
9			Bone		
10			Techniques for analyzing bone		
11			Neuropathology and muscle biopsy techniques		
12			Muscle biopsies		
13			Molecular pathology		
14			Techniques in molecular pathology		
15			Exam		

Course Assessment	
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.	
Learning and Teaching Resources	
Prescribed Textbooks (if available)	/
Main References (Sources)	- Pathologic basis of diseases, 8th edition, 2012 - Junqueiras basic histology, 15th edition, 2018 - Pathology illustrated, 17th edition, 2011.
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	/
Electronic References and Internet Websites	/

Course Description Template

Course Title
Computer Application
Course Code
Semester / Year
Second Semester / Third Stage / 2024–2025
Date of Course Description Preparation
10/4/2025
Available Attendance Modes
In Person attendance
Total Study Hours / Total Credit Units
30 Practical / 15 Theoretical / 2 Units
Course Coordinator(s)
Name: Assistant Lecturer Mohammed Mousa Jaafar Email: Mohamed.m.jaafer@uruk.edu.iq

Course Objectives

Course Objectives	1.Understanding the basics, components, and types of networks. 2. Familiarity with the concept of the Internet and its applications (email, browsers). 3. Equipping students with skills to create, edit, and print presentations. 4. Using spreadsheets, performing calculations, and an introduction to artificial intelligence, its applications, and uses.

Teaching and Learning Strategies

Strategy	Teaching the curriculum theoretically by presenting the material to students and encouraging their participation. Teaching the material practically using computers. Engaging students in applying the material practically on the computer. Conducting formative assessments during the lecture. Administering a test on the material in the lecture following its explanation to reinforce understanding and evaluate the effectiveness of the material for the students.

Course Structure

Week	Hours	Intended	Unit or Topic Title	Teaching Method	Assessment

		Learning Outcomes			Method
2	3	What is a network? Types of networks,	Security and Networks	Theoretical and Practical Explanation	Discussion and Exam
	3	basic components of a network	Security and Networks	Theoretical and Practical Explanation	Discussion and Exam
	3	Network Security Fundamentals, Understanding Network Threats	Computer Troubleshooting and Repair	Theoretical Explanation	Discussion and Exam
	3	E-commerce Concepts	Computer Troubleshooting and Repair Introduction to Artificial Intelligence	Theoretical and Practical Explanation	Discussion and Exam
	3	Identifying and Solving Common Hardware and Software Problems Encountered by Computer Users	Introduction to Artificial Intelligence The Role of Artificial Intelligence in Modern Smartphones	Theoretical and Practical Explanation Theoretical Explanation	Discussion and Exam Discussion and Exam
	3	Essential Techniques and Tools for Troubleshooting and Problem Solving	The Role of Artificial Intelligence in Modern Smartphones Artificial Intelligence Applications and Tools	Theoretical Explanation	Discussion and Exam
	3	Definition of Artificial Intelligence, History of Artificial Intelligence, AI Techniques and Approaches	Artificial Intelligence Applications and Tools Applications and Tools of Artificial Intelligence Artificial Intelligence and Society	Theoretical and Practical Explanation	Discussion and Exam
	3	Key Characteristics of Artificial Intelligence, Benefits of Artificial Intelligence, Challenges and	Ethical Challenges in Artificial Intelligence The Future of Artificial Intelligence	Theoretical and Practical Explanation Theoretical Explanation	Discussion and Exam Discussion and Exam

		Ethical Considerations		Theoretical Explanation	Discussion and Exam
	3	AI-Powered Mobile Technologies, Virtual Assistants (Siri, Google Assistant, Alexa)		Theoretical Explanation	Discussion and Exam
	3			Theoretical Explanation	Discussion and Exam
				Theoretical Explanation	Discussion and Exam
				Theoretical Explanation	Discussion and Exam

Course Assessment

The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.

Learning and Teaching Resources

Prescribed Textbooks (if available)	
Main References (Sources)	Peterson, Larry L., and Bruce S. Davie. Computer networks: a systems *approach*. Elsevier, 2007. Wellman, B. (2001). Computer networks as social networks. *Science*, *293*(5537), 2031-2034. Kizza, J. M., Kizza, W., & Wheeler. (2013). *Guide to computer network security* (Vol. 8). Berlin: Springer.
Recommended Supporting Books	WANG, Jie. *Computer network security*.

and References (Scientific Journals, Reports, etc.)	Berlin/Heidelberg, Germany: Springer, 2009.
Electronic References and Internet Websites	

Course Description Template

1.Course Title	
Viruses	
2. Course Code	
3.Semester / Year	
January 2025	
4. Date of Course Description Preparation .1	
2025/3/21	
5. Attendance Modes	
9 Total Study Hours / Total Credit Units	
7. Course Coordinator(s)	
Name: Assistant Lecturer Musab Mohammed **Email:** musabs144@gmail.com	
8. Course Objectives	
Course Objectives	Practical Theoretical Principle of operation
9. Teaching and Learning Strategies	
Strategy	1 Sending the lectures at least two days before the class. 2 Explaining the lecture along with a quiz in each session. 3 Assignments and question solutions in every lecture.
Course Structure	

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
11.Course Assessment .2					
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.					
12. Learning and Teaching Resources .3					
Prescribed Textbooks (if available)					
Main References (Sources)					
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)					
Electronic References and Internet Websites					

Course Description Template

Course Title
Fungi
Course Code
.Semester / Year
Second Term 2025
Date of Course Description Preparation
2025/3/21
Available Attendance Modes
Practical Laboratory Lectures
.Total Study Hours / Total Credit Units
30 hours / 4 credit units
Course Coordinator(s)
Name: Assistant Lecturer Musab Mohammed **Email:** musabs144@gmail.com
Course Objectives

Course Objectives	Practical

	Theoretical Principle of operation ●

Teaching and Learning Strategies	
Strategy	1 Sending the lectures at least two days before the class. 2 Explaining the lecture along with a quiz in each session. 3 Assignments and question solutions in every lecture.

Course Structure

Week	Hours	Intended Learning Outcomes	Unit or Topic Title	Teaching Method	Assessment Method

Course Assessment

The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.

Learning and Teaching Resources

Prescribed Textbooks (if available)	
Main References (Sources)	
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	
Electronic References and Internet Websites	

Course Description Template

Course Title
Modern Laboratory Techniques
Course Code

Semester / Year
First Semester / Third Stage / 2024–2025
Date of Course Description Preparation
2025/4/7
Available Attendance Modes
In-Person Lectures
Total Study Hours / Total Credit Units
30 Practical Hours / 15 Theoretical Hours / 3 Credit Units
Course Coordinator(s)

Name: Assistant Lecturer Asmaa Jalil Alawi
Email: asmajalel77@gmail.com

Course Objectives	
Course Objectives	Advanced tests in various body fluids, such as urine, cerebrospinal fluid, semen analysis, in addition to specialized techniques for stool examination. Diagnostic immunological tests, such as single radial immunodiffusion for complement diagnosis and quantification of immunoglobulins and other components of serum and various body fluids. Immunofluorescence tests and their applications in the diagnosis of microorganisms and immunological conditions. Radioisotope-based diagnostic tests. Various immunoelectrophoresis tests and their modifications. Cellular immunity tests, such as phagocytosis and lymphocyte transformation, among others. Techniques related to the preparation of immunochemical substances through separation or synthesis methods.

Teaching and Learning Strategies	
Strategy	Teaching the theoretical curriculum by presenting the material to ıdents while encouraging active participation. Teaching the subject practically using laboratory equipment and ıterials. Engaging students in the practical application of the material.

	Conducting implicit (formative) assessments during the lecture. Administering assessments in the lecture following the one in ıich the material was taught, to reinforce and solidify derstanding, and to evaluate the effectiveness of the material ıong students.

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
1	3	Different methodsof sterelazation,wet heatand dry heat	Safety in ıicrobiology laboratory	Practical and Theoretical Explanation	Discussion and Exam
2	3	ecimen type,urine collection, sputum collection	Collection ,transport and examination of specimens	Practical and Theoretical Explanation	Discussion and Exam
3	3	Collection methods, sperm count, agglutination	Seminal fliud analysis		Discussion and Exam
4	3	Types of culture media, methods of culture HCV rapid test	Culturing of organisms conventional microbiological teghniques	Practical and Theoretical Explanation	Discussion and Exam
5	3	PCR principle and procedure	Virus diagnosis	Practical and Theoretical Explanation	Discussion and Exam
6	3	Purpose and principle	Polymerase chain Reaction(PCR)		Discussion and Exam
7	3	Method for separation,	Complete blood count (CBC)	Practical and Theoretical	Discussion and Exam

29	3	types of container and additive	Chromatography separation of amino acid	Explanation Practical and Theoretical Explanation Practical and Theoretical Explanation Practical and Theoretical Explanation	Discuss on and Exam

Course Assessment	
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams reports, etc.	
Learning and Teaching Resources	
Prescribed Textbooks (if available)	
Main References (Sources)	.Ref 1. Methods of medical 1 specimen collection, transportation and .processing .(Abdul-Hadi Al-Asheery) 2. Manual of basic technique . for a health laboratory .((WHO 3. Body fluids, Islamic university in Gaza, Ibtisam H. AlAswad, Yousif M. EL-Argan .and Mohammed M. Laqqan 4. Practical Immunology (Frank C. Hay, and Olwyn M.R. (Westwood 5. Guide to Lab and diagnostic tests (Tracey B. Hopkins

Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	
Electronic References and Internet Websites	

Course Title	
Practical Hematology	
Course Code	
Semester / Year	
Second Semester / Third Stage / 2024–2025	
Date of Course Description Preparation	
21/3/2025	
Available Attendance Modes	
In-Person Lectures	
Total Study Hours / Total Credit Units	
10 Practical Hours / 2 Credit Units	
Course Coordinator(s)	
Name: Assistant Lecturer Teba Waleed **Email:** teba23233@gmail.com	
Course Objectives	
Course Objectives	**Understanding the Basics of Laboratory Tests in Hematology:** Learning blood collection methods and how to prepare samples for examination. Identifying different types of collection tubes and their uses. **Acquiring Skills in Complete Blood Count (CBC):** Understanding the components of blood (red blood cells, white blood cells, platelets). Using the microscope to analyze blood smears. **Identifying Blood Cell Morphology and Diagnosing Medical Conditions:** Differentiating between normal and abnormal cells. Correlating blood smear changes with medical conditions such as anemia, leukemia, thalassemia, etc. **Training on Blood Staining and Slide Examination:** Using stains such as Wright stain.

Teaching and Learning Strategies	
Strategy	**Interactive Learning in the Laboratory:** Direct practical demonstration. Students perform tests under direct supervision to apply the acquired skills. **2. Presentations:** Presentation and discussion of clinical cases or test results. Enhancing understanding through information exchange among students. **Problem-Based Learning (PBL):** Introducing real or simulated clinical cases to stimulate students to analyze them and correlate laboratory results with diagnosis. **Hands-on Training:** Students independently perform tests such as complete blood count, slide preparation, staining, and cell counting.

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method
1	1.30	Components of Blood and Their Main Functions	Components of Blood	Theoretical and Practical Explanation	Discussion and Exam
2	1.30	Distinguishes between the different types of blood diseases (such as: anemia, leukemia, and coagulation disorders).	cbc	Theoretical and Practical Explanation	Discussion and Exam
2	1.30	The time required for blood to clot via the extrinsic pathway	pt.ptt	Theoretical and Practical Explanation	Discussion and Exam
4	1.30	Explaining the concept of the ESR test and its importance in diagnosing inflammation and chronic diseases.	esr	Theoretical and Practical Explanation	Discussion and Exam
5	1.30		Blood film	Theoretical and Practical Explanation	Discussion and Exam

6 6 8 9 10	1.30 1.30 1.30 1.30	Understand 2 the physiological principles that influence the erythrocyte sedimentation rate (ESR). Identify the factors that affect ESR test result Explain the concept of the Blood Film test and its importance in diagnosing blood disorders such as anemia, malaria, leukemia, etc. Distinguish between types of blood cells (red blood cells, white blood cells, and platelets) in terms of shape, size, and normal count. Understand abnormal hematological indicators. **Diagnosing anemia.**	Blood film Retic Count (Reticulocyte Count)	Theoretical and Practical Explanation Theoretical and Practical Explanation Theoretical and Practical Explanation Practical Theoretical and Practical Explanation Practical	Discussion and Exam Discussion and Exam Discussion and Exam Discussion and Exam

		Monitoring response to treatment (e.g., iron or vitamin B12 therapy). **Evaluating bone marrow function.**			

Course Assessment
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.

Learning and Teaching Resources	
Prescribed Textbooks (if available)	1. **Hematology: Basic Principles and Practice** – *Ronald Hoffman* 2. **Clinical Hematology Atlas** – *Bernadette Rodak* 3. **Wintrobe's Clinical Hematology** 4. **Essentials of Hematology** – *Shirish M. Patil* American Society of Hematology (ASH
Main References (Sources)	
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	
Electronic References and Internet Websites	

Course Description Template

Course Title
Research Methods
Course Code
Semester / Year
First Semester / Fourth Stage / 2024–2025
Date of Course Description Preparation
2/5/2025
Available Attendance Modes
In-Person Lectures
Total Study Hours / Total Credit Units
30 Theoretical Hours / 4 Credit Units
Course Coordinator(s)
Name: Assistant Lecturer Ruqayah Luay Mohammed Shamsuddin **Email:** Ruqyh.oglu@gmail.com
Course Objectives

Course Objectives	By the end of the semester, the student should be able to design and write a scientific research project.

Teaching and Learning Strategies	
Strategy	Theoretical instruction is delivered through presenting the material to students while encouraging active student participation. Students are engaged in applying the content by designing a scientific research project. Formative assessments are conducted during the lecture to monitor understanding. Summative assessments are activated in the lecture following the delivery of the material, to reinforce learning and evaluate students' comprehension and the effectiveness of the content.

Course Structure

Week	Hours	Intended Learning Outcomes (ILOs)	Unit or Topic Title	Teaching Method	Assessment Method

الاول	3	Principles of research		Theoretical Explanation	Discussion and Exam
الثاني	3	Scientific method		Theoretical Explanation	Discussion and Exam
الثالث	3	Designing the research plane		Theoretical Explanation	Discussion and Exam
الرابع	3	The research process		Theoretical Explanation	Discussion and Exam
الخامس	3	Classification of research		Theoretical Explanation	Discussion and Exam
السادس	3	Fundamental research		Theoretical Explanation	Discussion and Exam
السابع	3	Applied research and pilot study		Theoretical Explanation	Discussion and Exam
الثامن	3	Clinical trial research		Theoretical Explanation	Discussion and Exam
التاسع	3	Research problem formation		Theoretical Explanation	Discussion and Exam
10	3	Proposal writing (protocol		Theoretical Explanation	Discussion and Exam
11	3	Introduction (chapter one) and aim of the study		Theoretical Explanation	Discussion and Exam
12	3	Review of literature		Theoretical Explanation	Discussion and Exam
13					
14					
15					

		Result Discussion Conclusion and recommend ation		Theoretical Explanation	

Course Assessment	
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.	
Learning and Teaching Resources	
Prescribed Textbooks (if available)	
Main References (Sources)	https://www.slideshare.net/collinsbrobbey/sample-studyhttp://www.socscidiss.bham.ac.uk/methodologies.html
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	
Electronic References and Internet Websites	

Course Description Template

Course Title
Laboratory Management
Course Code
Semester / Year
First Semester / Fourth Stage / 2024–2025
Date of Course Description Preparation
2/5/2025
Available Attendance Modes

In-person Lecture
Total Study Hours / Total Credit Units
30 Theoretical Hours / 2 Credit Units

Course Coordinator(s)

Name: Assistant Lecturer Ruqayah Luay Mohammed Shamsuddin
Email: Ruqyh.oglu@gmail.com

Course Objectives

Course Objectives	Course Goal: By the end of the semester, the student should be able to understand the specific methods for the proper management of laboratories. Specific Objectives: To introduce students to the types of laboratories and the responsibilities of the laboratory supervisor. To familiarize students with modern methods of laboratory management, such as the use of the internet.

Teaching and Learning Strategies

Strategy	Theoretical instruction is delivered through presenting the material to students while actively encouraging their participation. Students will apply the course content practically through laboratory sessions. Formative (implicit) assessments are conducted during the lectures to gauge ongoing comprehension. Summative assessments are conducted in the lecture following the introduction of new material, to reinforce and solidify understanding as well as to evaluate the effectiveness of the content delivered.

Course Structure

Week	Hours	Intended Learning Outcomes	Unit or Topic Title	Teaching Method	Assessment Method
1	2	Principles of research	Laboratory Management	Theoretical Explanation	Discussion and Exam
2	2	The role of the laboratory in the diagnosis and control of infection		Theoretical Explanation	Discussion and Exam
3	2				
4	2			Theoretical Explanation	

5	2	Laboratory management		Theoretical Explanation	Discussion and Exam
5	2	Mission of health			Discussion and Exam
6	2	laboratory services		Theoretical Explanation	Discussion and Exam
8	2	Planning		Theoretical Explanation	Discussion and Exam
9	2	Organization			Discussion and Exam
10	2	Directing		Theoretical Explanation	
11	2	Leadership		Theoretical Explanation	Discussion and Exam
12	2	Controlling			
13	2	Pre analytical control		Theoretical Explanation	Discussion and Exam
14	2	Laboratory communication with the administration		Theoretical Explanation	Discussion and Exam
15	2	Data handling and data processing		Theoretical Explanation	Discussion and Exam
	2	Use of computer for control of laboratory performance		Theoretical Explanation	Discussion and Exam
		Laboratory equipment preventive maintenance program		Theoretical Explanation	
		Inventory control		Theoretical Explanation	

Course Assessment	
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.	
Learning and Teaching Resources	
Prescribed Textbooks (if available)	
Main References (Sources)	1-//www.acs.org/content/acs/en/careers/college-to-career/chemistry-careers/lab-management.html 2 ww.asbmb.org/asbmbtoday/asbmbtoday_article.aspx?id=4897 2-www.asbmb.org/asbmbtoday/asbmbtoday_article.aspx?id=4897
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	
Electronic References and Internet Websites	

Course Description Template

Course Title
PATHOLOGY
Course Code
Semester / Year
2025/2024
Date of Course Description Preparation
1/4/2025
Available Attendance Modes
In-person (Morning, Evening)
Total Study Hours / Total Credit Units
6 Hours / 7 Credit Units

Course Coordinator(s)
Name: Dr. Ali Mohammed Abbood **Email:** ali.m.abbood@uruk.edu.iq

Course Objectives	
Course Objectives	To provide students with a broad and up-to-date understanding of pathology. To establish a solid knowledge base in pathology and modern techniques, enabling students to integrate effectively into the medical community they will join after graduation in hospitals.

Teaching and Learning Strategies	
Strategy	Active learning, brainstorming, discussion and participation system

Course Structure

Week	Hours	Intended Learning Outcomes	Unit or Topic Title	Teaching Method	Assessment Method
1	2 hrs.	Questions Oral during lecture and short Quzzies	Lung (atelectasias, acute lung injury)	Power point	**Monthly Exam Daily ttendance Quiz Classroom Activity**
2			Lung (chronic bronchitis pulmonary embolism)		
3			Lung tumors		
4			Kidney (glomercular disease)		
5			Kidney (nephrotic syndrome, IgA nephropathy (Berger disease)		
6			Kidney tumors		
7			Cancer of the oral cavity and tongue		
8			Esophagus (lacivation, varices, esophageal carcinoma)		
9			Stomach (gastritis, ulcer, carcinoma)		
10			Large intestines (hemorrhoids,		

			malabsorption syndrome)		
11			Crohn disease		
12			Large intestines tumors		
13			Liver (hepatic infection, failure, cirrhosis)		
14			Hepatic tumors		
15			Gall bladder (cholecystitis, tumors)		
16			Pancreas (pancreatitis)		
17			Pancreatic neoplasma		
18			Male genital system (testicular atrophy, lesions, neoplasma)		
19			Male genital system (prostatis, tumors)		
20			Female genital system (cervicitis, tumor of the cervix)		
21			Uterus (endometritis, endometriosis , tumor of the uterus)		
22			Breast (fibrocystic changes, tumors of the breast)		
23			Endocrine system (hyperpituitarism and pituitary adenoma)		
24			Thyroid (thyroiditis, thyroid neoplasm)		
25			Bone tumors		
26			Skin (acute eczematous dermatitis, psoriasis)		
27			Skin tumors		
28			Nervous system (brain tumor)		
29			Nervous system (diseases of the peripheral nervous system)		
30			Exam		

7. Course Assessment

The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written

exams, reports, etc.	
8. Learning and Teaching Resources .	
Prescribed Textbooks (if available)	/
Main References (Sources)	- Pathologic basis of diseases, 8th edition, 2012 - Junqueiras basic histology, 15th edition, 2018 - Pathology illustrated, 17th edition, 2011.
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	/
Electronic References and Internet Websites	/

Course Description Template

Course Title
Practical Pathology
Course Code
Semester / Year
2025/2024
Date of Course Description Preparation
15/12/2024
Available Attendance Modes
Pathology Lab Attendance (Morning and Evening Sessions)
Total Study Hours / Total Credit Units
45 Practical Hours over a Full Academic Year / 7 Credit Units
Course Coordinator(s)
Name: Assistant Lecturer Zahraa Ahmed Ali **Email:** zahraa.a.akbar@uruk.edu.iq
Course Objectives

Course Objectives	
	• To provide the student with a broad and up-to-date understanding of pathology. • To establish a solid knowledge base in pathology and modern techniques, enabling the student to keep pace with the medical community they will work with after graduation in hospitals.

6.Teaching and Learning Strategies

Strategy	
	1.Explain the material theoretically and clarify the scientific terms specific to each lecture. 2 Present educational videos for each lecture, allowing students to observe diseases and tumors affecting each organ with accuracy and precision. 3 Display high-resolution images of affected organs to train students in accurate diagnosis and case identification. 4 Provide laboratory instruction on how to preserve samples and the tools required for isolating and virtually storing samples, even in the absence of actual cases.

9. Course Structure

Week	Hours	Intended Learning Outcomes	Unit or Topic Title	Teaching Method	Assessment Method
01	One hrs.	Oral Questions and short Quizzes' during the Lecture	Lung (atelectasis, acute lung injury)	**Power Point resentations** Educational **Videos** Illustrative **Images**	Daily Quizzes, room Activity and Monthly Exam
02			Lung (chronic bronchitis pulmonary embolism)		
03			Lung tumors		
04			Kidney (glomerular disease)		
05			Kidney (nephrotic syndrome, IgA nephropathy (Berger disease)		
06			Kidney tumors		
07			Cancer of the oral cavity and tongue		
08			Esophagus		

			(lacivation, varices, esophageal carcinoma)		
09			Stomach (gastritis, ulcer, carcinoma)		
10			Large intestines (hemorrhoids, malabsorption syndrome)		
11			Crohn disease		
12			Large intestines tumors		
13			Liver (hepatic infection, failure, cirrhosis)		
14			Hepatic tumors		
15			Gall bladder (cholecystitis, tumors)		
16			Pancreas (pancreatitis)		
17			Pancreatic neoplasma		
18			Male genital system (testicular atrophy, lesions, neoplasm)		
19			Male genital system (prostate, tumors)		
20			Female genital system (cervicitis, tumor of the cervix)		
21			Uterus (endometritis, endometriosis, tumor of the uterus)		
22			Breast (fibrocystic changes, tumors of the breast)		
23			Endocrine system (hyperpituitarism		

			and pituitary adenoma)		
24			Thyroid (thyroiditis, thyroid neoplasm)		
25			Bone tumors		
26			Skin (acute eczematous dermatitis, psoriasis)		
27			Skin tumors		
28			Nervous system (brain tumor)		
29			Nervous system (diseases of the peripheral nervous system)		
30			Exam		

Course Assessment

The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.

Learning and Teaching Resources

Prescribed Textbooks (if available)	/
Main References (Sources)	- Pathologic basis of diseases, 8th edition, 2012 - Junqueiras basic histology, 15th edition, 2018 - Pathology illustrated, 17th edition, 2011.
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	/
Electronic References and Internet Websites	/

Course Description Template

Course Title	
Blood transfusion	
Course Code	
Semester / Year	
Second Semester – Fourth Stage / 2024–2025	
Date of Course Description Preparation	
10/4/2025	
Available Attendance Modes	
In-Person Laboratories	
Total Study Hours / Total Credit Units	
15 Practical Hours / 15 Laboratory Hours / 4 Credit Units	
Course Coordinator(s)	
Name: Assistant Lecturer Ahmed Abdul-Razzaq Faraj **Email:** ahmedrazaq.f96@gmail.com	
Course Objectives	
Course Objectives	**Specific Objectives:** To equip the student with knowledge related to blood transfusion procedures and the proper storage of transfused blood samples. To provide both theoretical and practical information about the separation of blood components such as plasma, platelets, and clotting factors. To offer theoretical knowledge about techniques for handling stored blood samples in hospitals.

Teaching and Learning Strategies	
Strategy	▯ Theoretical instruction is delivered by presenting the material to students while encouraging active participation. ▯ Practical instruction is conducted in laboratories through performing experiments and applying blood transfusion testing and matching techniques. ▯ Students are engaged in applying the course content practically during laboratory sessions. ▯ Formative (implicit) assessments are carried out during the lecture to monitor comprehension. ▯ Summative assessments are administered in the lecture following the initial explanation to reinforce learning and assess the effectiveness of the material.

Course Structure

Week	Hours	Intended Learning Outcomes	Unit or Topic Title	Teaching Method	Assessment Method
1	4	Understanding the basics of blood banks, blood types, and compatibility testing. Understanding donor selection criteria, donation procedures, and the benefits of blood donation. Identifying laboratory tests for donated blood, including contamination and virus screening.	Introduction to Blood banking	Theoretical Explanation	Discussion and Exam
2, 3	4		Blood donation & selection of donors		
4,5,6	4		Lab. Test for donated blood	Theoretical and Practical Explanation	Discussion and Exam
7,8	4		Blood grouping test		Discussion, Exam, and Practical Experiment
9	4		Rh system test	Theoretical and Practical Explanation	
10	4		Hemolytic disease of newborn		
11, 14	4		Complication of blood transfusion	Theoretical and Practical Explanation	Discussi Discussion, Exam, and Practical Experiment
15	4		Transmission of disease by blood transfusion	Theoretical and Practical Explanation	Discussion, Exam, and Practical Experiment
16	4		Aid and blood transfusion		
17,18	4		Types of anticoagulants use in hematology	Theoretical Explanation	Discussion and Exam
19	4		Autologous blood transfusion	Theoretical	

20	4	Understanding blood typing tests, the ABO and Rh systems, and result interpretation.	Anti-human globulin	Explanation	Discussion and Exam
21	4		Hemolytic anemia	Theoretical Explanation	Discussion and Exam
22	4		Homeostasis & bleeding disorders	Theoretical Explanation	Discussion and Exam
23	4	Understanding the Rh system test, determining Rh blood type, and its impact on blood compatibility.	Platelets disorders	Theoretical Explanation	Discussion and Exam
24	4		Coagulating disorders	Theoretical and Practical Explanation	Discussion, Exam, and Practical Experiment
25	4		Tests of haemostatic function		
26	4	Understanding the causes of hemolytic disease, its diagnosis, prevention, and treatment in newborns.	Acquired coagulation disorders	Theoretical and Practical Explanation	Discussion, Exam, and Practical Experiment
27	4		Autosomal dominant inheritance		
28,30	4		Coombes test	Theoretical Explanation	Discussion and Exam
		Recognizing blood transfusion complications, early diagnosis, and methods of prevention and treatment.		Theoretical and Practical Explanation	Discussion, Exam, and Practical Experiment
				Theoretical Explanation	Discussion and Exam
				Theoretical and Practical Explanation	Discussion, Exam, and Practical Experiment
		Understanding transfusion-transmitted diseases, prevention methods, and blood		Theoretical and Practical Explanation	Discussion, Exam, and Practical Experiment

		safety testing. Understand the different types of anticoagulants, their modes of action, and their applications in hematological testing. Understand the concept of autologous transfusion, including its benefits, clinical procedures, and potential risks. Understand the different types of anticoagulants, their modes of action, and their applications in hematological testing. Understand the concept of autologous transfusion, including its		Theoretical Explanation Theoretical Explanation Theoretical and Practical Explanation	Discussion and Exam Discussion and Exam Discussion, Exam, and Practical Experiment

		benefits, clinical procedures, and potential risks. Understanding the Human Antiglobulin Test (Coombs test), its uses in compatibility testing and antibody screening. Understand the causes, clinical features, diagnostic methods, and treatment of hemolytic anemia. Understand the principles of hemostasis, the mechanism of blood clotting, and the diagnosis and management of bleeding disorders.			

		Understanding platelet disorders, their types, diagnosis, and treatment. Understanding coagulation disorders, their causes, diagnosis, and treatment. Understanding coagulation function tests, including Prothrombin Time (PT) and Thrombin Time (TT) analysis. Understanding acquired coagulation disorders, their causes, diagnosis, and treatment. Understanding autosomal dominant inheritance, genetic patterns, and their health implications.			

		Understanding the Coombs test, its types, and its use in diagnosing immune reactions and blood compatibility.			

Course Assessment
The distribution of the score out of 100 is based on the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly written exams, reports, etc.

Learning and Teaching Resources	
Prescribed Textbooks (if available)	
Main References (Sources)	**1.** Harvey G. Klein (2014): Mollison's Blood Transfusion in clinical Medicine , 12th edition. **2.** Christopher D. Hillyer (2007). Blood Banking and Transfusion Medicine: Basic Principles & Practice. Elsevier Health Sciences. **3.** Kilduffe R, DeBakey M (1942). The blood bank and the technique and therapeutics of transfusion. St. Louis: The C.V.Mosby Company. pp. 196–97. **4.** "The History of Blood Ttansfusion". British Journal of Haematology. **110**: 758–67. 2001. doi:10.1046/j.1465-2141.2000.02149.x. PMID 11054057 **5.** Marik PE, Corwin HL (2008). "Efficacy of red blood cell transfusion in the critically ill: a systematic review of

	the literature". Crit Care Med. **46**: 2667–74. *doi:10.1097/ccm.0b014e4181844677*
Recommended Supporting Books and References (Scientific Journals, Reports, etc.)	
Electronic References and Internet Websites	