

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

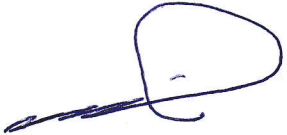
Academic Program Description
Al-Zahrawi University / College of Health and
Medical Technologies
Department of Medical Laboratory Techniques

2026-2025

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic Year 2026-2025

University: Al-Zahrawi
College: health and medical technologies
Number Of Departments In The College:
Date Of Form Completion : 20/9 / 2026


Prof. Dr. Najeh Hashem Kadum

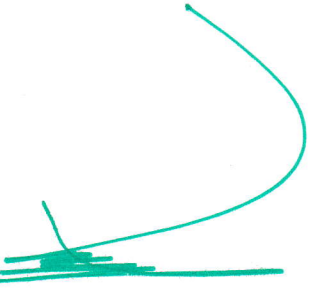
Head of the department
Date: 20/9/2025
Signature

Dean's Assistant For
Scientific Affairs

Date: 20 / 9 / 2025
Signature

The College Quality Assurance
And University Performance
Manager

Date: 20 / 9 / 2025
Signature
A. L. S. Han Forat H. H.


Quality Assurance And University Performance Manager
Date: 20 / 9 / 2025
Signature

Dean's Name prof. Dr. Heba A. Abdulsalam

Date: 20 / 9 / 2025

Signature

Vision .1

Educational excellence in the field of allied medical sciences through providing academically distinguished programs at the local and regional levels, preparing qualified cadres capable of improving the .level of health behavior in society, and enriching scientific research in the field of medical laboratories

Program Mission .2

Supplying the labor market with graduates of the department who possess competence and are equipped with professional ethics, scientific and practical knowledge, and skills, and raising the level of the .profession locally and in the Arab world

Program Objectives .3

- .1 Prepare graduates to practice the medical laboratory analysis profession with high competence
- .2 Provide training sites that enable students to gain experience in the field of medical laboratory analysis
- .3 Develop a spirit of scientific integrity, accuracy, and honesty in conducting various laboratory tests
- .4 Supply the local market with specialized competencies

Program Accreditation .4

.The program has no accreditation

External Influences .5

.There is no sponsor for the program

Program Structure .6

*Remarks	Percentage	Credit Hours	Number of Courses	Program Structure
Core	%2.6	5	2	Institution Requirements
Core	%8.9	17	7	College Requirements
Core	%88.5	170	35	Department Requirements
/	/	/	/	Summer Training
/	/	/	/	Other

Program Description					
Units	Credit Hours		Course Name	Course Code	Academic Stage
	Practical / Applied	Theoretical			
4	5	2	General Chemistry 1	MLT31101	First Stage First Semester
2	0	2	Medical Terminology	MLT31102	
4	5	2	Human Biology 1	MLT31103	
4	4	2	Laboratory Equipment 1	MLT31104	
2	0	2	Professional Conduct	MLT31105	
2	0	2	Human Rights and Democracy	MLT31106	
4	5	2	General Chemistry 2	MLT31201	First Stage Second Semester
4	5	2	Anatomy	MLT31207	
4	5	2	Human Biology 2	MLT31203	
4	4	2	Laboratory Equipment 2	MLT31204	
2	2	1	Computer Principles	MLT31208	
2	0	2	Arabic Language	MLT31209	
4	4	2	Medical Bacteriology 1	MLT32101	Second Stage First Semester
4	4	2	Biochemistry 1	MLT32102	
4	4	2	Human Physiology 1	MLT32103	
4	4	2	Histology 1	MLT32104	
2	2	1	Descriptive Biostatistics	MLT32105	
4	4	2	Medical Parasitology 1	MLT32106	
2	0	2	Crimes of the Ba'ath Regime in Iraq	MLT32107	
2	2	1	Computer Principles	MLT32108	
4	4	2	Medical Bacteriology 2	MLT32201	Second Stage Second Semester
4	4	2	Biochemistry 2	MLT32202	
4	4	2	Human Physiology 2	MLT32203	
4	4	2	Histology 2	MLT32204	
4	4	2	Medical Parasitology and Insects 2	MLT32206	
4	4	2	Molecular Biology	MLT3209	
2	0	2	Arabic Language	MLT3210	

Units	Credit Hours		Course Name	Course Code	Academic Stage
	Practical / Applied	Theoretical			
3	2	2	Histopathology 1	MLT33101	Third Stage First Semester
3	2	2	Hematology 1	MLT33102	
4	4	2	Medical Virology	MLT33103	
4	4	2	Clinical Endocrinology	MLT33104	
4	4	2	Medical Genetics 1	MLT33105	
4	4	2	Immunology 1	MLT33106	
3	4	2	Advanced Laboratory Techniques	MLT33107	
3	2	2	Histopathology 2	MLT33201	Third Stage Second Semester
3	2	2	Hematology 2	MLT33202	
4	4	2	Medical Mycology	MLT33208	
4	4	2	Metabolic Disorders	MLT33209	
4	4	2	Medical Genetics 2	MLT33205	
4	4	2	Immunology 2	MLT33206	
2	3	1	Analytical Biostatistics	MLT33210	
4	4	2	Clinical Immunology 1	MLT34101	Fourth Stage First Semester
4	4	2	Diagnostic Bacteriology 1	MLT34102	
4	4	2	Clinical Enzymology	MLT34103	
4	4	2	Diagnostic Parasitology 1	MLT34104	
4	4	2	Blood Transfusion	MLT34105	
4	4	2	Pathology	MLT34106	
2	0	2	Professional Ethics	MLT34107	
1	0	1	Research Methods	MLT34108	
4	4	2	Clinical Immunology 2	MLT34201	Fourth Stage Second Semester
4	4	2	Diagnostic Bacteriology 2	MLT34202	
2	0	2	Stem Cell Biology	MLT34209	

			and Embryology		
4	4	2	Diagnostic Parasitology 2	MLT34204	
4	4	2	Clinical Chemistry	MLT34210	
4	4	2	Antimicrobial Resistance and Infection Control	MLT34211	
1	0	1	Laboratory Management	MLT34212	
4	6	0	Graduation Project	MLT34213	

Expected Learning Outcomes of the Program .1

Knowledge	
Learning Outcome 1 Assessment :Methods of Assessing Knowledge and Understanding .Weekly reports on practical experiments -1 .Periodic tests for theoretical subjects -2 .Theoretical and practical semester examinations -3 .Theoretical and practical final examinations -4	Learning Outcome 1 :Knowledge and Understanding Teach the student topics related to the -1 .specialization of medical laboratories Prepare and perform the various -2 .methods used in medical laboratories Train the student on how to obtain -3 specimens from patients/clients for .laboratory use Interpret the results obtained from the -4 analysis and determine their consistency .with the diagnosis of the case
Skills	
Learning Outcome 2 Assessment :Methods of Assessing Thinking Skills .Use logic to evaluate the answer -1 .Identify errors to evaluate the answer -2 Evaluate the effectiveness of the methods adopted to solve the -3 .problem .Support opinions with evidence -4	Learning Outcome 2 :Thinking Skills Use brainstorming through direct -1 .questions The student should participate in -2 all activities, discussions, and .dialogues during lectures
Learning Outcome 3 Assessment :Methods of Assessing Practical Skills Practical skills are assessed according to individual differences among .students and by the methods specific to each practical subject	Learning Outcome 3 :Professional and Practical Skills The student should master work -1 inside the laboratory, know how to handle the available chemicals, and .use laboratory tools The student should master the -2 .theoretical scientific material
Values	
Learning Outcome 4 Assessment The student participates in community activities outside the college -1 .campus The student visits community institutions and learns about the -2 .conditions of those within them	Learning Outcome 4 The student should master the -1 .fundamentals of civil society The student should be an active -2 .member of society
Learning Outcome 5 Assessment	Learning Outcome 5

Appropriate selection of research project titles, with novelty and -1
 .innovation in their presentation
 Research projects should successfully pass plagiarism/similarity -2
 .checks

The student should understand the -1
 .formulation of research projects
 The student should know research -2
 .writing ethics and academic integrity

Teaching and Learning Strategies .2

- Lecture • •
- Dialogue and discussion •
- Cooperative learning (group division) •
- Brainstorming •
- Reciprocal teaching •
- Use of presentation screens and audio equipment •
- Writing research papers and reports in English •
- Speaking English in class and during participation •
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Assessment Methods .3

- Direct questioning and answering during the lecture • •
- Expected and surprise daily examinations •
- Evaluation of research papers and their writing in terms of style, •
- expression, and spelling
- Asking questions to measure listening and attention in English •
- Student participation in evaluating the performance of their peers •
- Practical assessment examinations for listening, speaking, and reading •
- Monthly and semester examinations •
- Theoretical final examinations •
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[illegible]

Professional Development

Orientation of New Faculty Members

- .Work on diversifying classroom management and lecture delivery methods • •
- New faculty members may be visited by the Head of Department and senior faculty members • •
- .during lectures
- .Conduct personal interviews to determine the instructor's competence and teaching skills •
- Publish research in international journals with impact factors, author publications, and •
- .participate in workshops and conferences
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Professional Development of Faculty Members

- .The academic program is reviewed periodically to identify and address its gaps •
- .Annual evaluation of each unit by the Head of Department or Department Coordinator •
- .Periodic reviews of the academic program by faculty members •
- Establishment of an external advisory board for the department including representatives of •
- .students and beneficiaries of the course
- .Periodic evaluation of faculty members by the Head of Department •
- .Student evaluation of faculty members through electronic surveys •
- .Self-evaluation by faculty members •
- .Student evaluation of an academic stage through electronic surveys •
- Coordination with the Quality Unit in the college and university to monitor implementation of the •
- .academic program in the department

Personal Development Planning .7

- .Identify the social determinants of health to reduce disparities and inequities in access to quality care .1
- Self-awareness: Examine personal knowledge, skills, abilities, beliefs, biases, motivations, and emotions .2
- .that may promote or limit personal and professional growth and reflection
- Professionalism: Demonstrate behaviors and values consistent with the trust placed by patients, other .3
- .healthcare providers, and society in the profession
- Learner: Develop, integrate, and apply knowledge from foundational sciences (such as dentistry and the .4
- social, behavioral, administrative, and clinical sciences) to evaluate scientific literature, explain
- pharmacological action, solve therapeutic problems, and advance population and patient-centered

.healthcare

Design prevention, intervention, and education strategies for individuals and communities to manage .5

.chronic diseases and improve health

Educate all audiences by identifying the most effective and sustainable methods of communicating .6

.information and assessing understanding

Admission Criteria .8

The general average for central admission, within the applicable limits and according to the directives of .1

.the Ministry of Higher Education and Scientific Research

Personal interviews with applicants for admission, recording speech, behavioral, or personal .2

.deficiencies

Main Sources of Information about the Program .9

.Committee of Deans of Colleges of Health and Medical Technologies .1

.The college website .2

.General books and references related to the department .3

Intended Learning Outcomes

:A. Knowledge and Understanding

- Describe the scientific basis of the Department of Medical Laboratory Techniques and the relevant biomedical and behavioral sciences that form the basis for understanding human growth, development, and health .1**
- Explain the structure and function of the human body and their relationship to various laboratory examinations .2**
- Identify the rules and ethics governing the practice of the medical laboratory techniques profession .3**
- Describe the various clinical and laboratory procedures and special examinations practiced in the Department of Medical Laboratory Techniques .4**
- Demonstrate an understanding of the psychological, cultural, and social factors that affect disease management and related laboratory analyses .5**
- Explain the principles of evidence-based medical laboratory analysis and its relationship to scientific research .6**

:B. Intellectual / Cognitive Skills

- Integrate theoretical basic sciences in biomedical sciences, behavioral sciences, and laboratory technology sciences with clinical signs and symptoms to understand and appropriately manage disease .1**
- Apply critical thinking and evidence-based problem solving when providing patient care .2**
- Prioritize patients' therapeutic needs and develop an appropriate treatment plan .3**
- Build preventive strategies at different levels according to the needs of the .4**

.individual and the target community

**Select appropriate materials for medical laboratories according to clinical .5
.cases**

:C. Professional and Practical Skills

**Obtain and record a comprehensive history, conduct an appropriate .1
physical examination, and perform various examinations to reach the correct
.diagnosis and treatment**

**Detect pathological conditions related to the practice of the medical .2
.laboratory analysis profession**

**Apply infection control and radiation protection according to international .3
.standards**

**Apply preventive measures for different age groups, taking into account .4
the different needs of young children, adolescents, adults, people with
.special needs, and older adults**

**Plan when, how, and where to refer a patient to a specialist based on .5
.clinical assessment**

.Assess the risks of medical emergency situations .6

.Apply comprehensive clinical practices .7

:D. General / Transferable Skills

**Commit to continuous learning, self-development, lifelong learning, and .1
.staying up to date with the latest developments in professional practice**

**Use advanced information and communication technologies to enrich and .2
.diversify professional experience**

Demonstrate leadership and teamwork skills with colleagues and the .3

.medical laboratory technical team to provide effective healthcare

.Manage time, prioritize treatment, and work within specified time limits .4

.Maintain complete and accurate test result records (manual and electronic) .5

Demonstrate appropriate behaviors at the personal and professional levels .6

.to maintain an excellent standing for the profession in society

Identify patients' expectations, wishes, and attitudes when considering .7

.treatment planning

.Analyze and solve problems and deal with uncertainty .8

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Main Sources of Information about the Program .4

Through the College Quality Unit and the University Quality Unit, which adhere to quality requirements and work to improve scientific, cognitive, skills, and research levels in accordance with the requirements of the Ministry of Higher Education and Scientific Research, in pursuit of international quality standards .and enhancement of academic program efficiency

Program Development Plan .5

- .Encourage students to make use of medical books
- Develop speaking, translation, and reading skills by benefiting from websites and
- .other contemporary means
- Encourage students to become familiar with the most important medical books,
- .particularly those related to medical laboratory analysis

Program Skills Mapping																
Required Program Learning Outcomes												No n- Cor e	Cor e	Course Name	Course Code	Year
Values				Skills				Knowledge								
C 4	C 3	C 2	C 1	B 4	B 3	B 2	B 1	A 4	A 3	A 2	A 1					
													/	General Chemistry 1	MLT311 01	First Stag e
													/	Medical Terminolo gy	MLT311 02	
													/	Human Biology 1	MLT311 03	
													/	Laborator y Equipmen t 1	MLT311 04	
													/	Professio nal Conduct	MLT311 05	
												/		Human Rights and Democracy	MLT311 06	
													/	General Chemistry 2	MLT312 01	
													/	Anatomy	MLT312 07	
													/	Human Biology 2	MLT312 03	
													/	Laborator y Equipmen t 2	MLT312 04	
												/		Computer Principles	MLT312 08	
												/		Arabic Language	MLT312 09	

Program Skills Mapping																	
Required Program Learning Outcomes												Non-Core	Core	Course Name	Course Code	Year	
Values				Skills				Knowledge									
C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1						
														/	Medical Bacteriology 1	MLT32101	Second Stage
														/	Biochemistry 1	MLT32102	
														/	Human Physiology 1	MLT32103	
														/	Histology 1	MLT32104	
														/	Descriptive Biostatistics	MLT32105	
														/	Medical Parasitology 1	MLT32106	
													/		Crimes of the Ba'ath Regime in Iraq	MLT32107	
													/		Computer Principle	MLT32108	

															S	
														/	Medical Bacteriology 2	MLT32201
														/	Biochemistry 2	MLT32202
														/	Human Physiology 2	MLT32203
														/	Histology 2	MLT32204
														/	Medical Parasitology and Insects 2	MLT32206
														/	Molecular Biology	MLT3209
												/			Arabic Language	MLT3210

Program Skills Mapping																
Required Program Learning Outcomes												No n-	Cor 6or	Course Name	Course Code	Year Year
Values				Skills				Knowledge								
C 4	C 3	C 2	C 1	B 4	B 3	B 2	B 1	A 4	A 3	A 2	A 1	Cor e	e	Name	Code	Thir d Sta ge
													/	Histopathol ogy 1	MLT33 101	
													/	Hematology 1	MLT33 102	
													/	Medical Virology	MLT33 103	
													/	Clinical Endocrinol ogy	MLT33 104	
													/	Medical Genetics 1	MLT33 105	
													/	Immunology 1	MLT33 106	
													/	Advanced Laboratory Techniques	MLT33 107	
													/	Histopathol ogy 2	MLT33 201	
													/	Hematology 2	MLT33 202	
													/	Medical Mycology	MLT33 208	
													/	Metabolic Disorders	MLT33 209	
													/	Medical Genetics 2	MLT33 205	
													/	Immunolog y 2	MLT33 206	
													/	Analytical Biostatistic s	MLT33 210	

C 4	C 3	C 2	C 1	B 4	B 3	B 2	B 1	A 4	A 3	A 2	A 1	Cor e				
													/	Clinical Immunology 1	MLT34101	Fourth Stage
													/	Diagnostic Bacteriology 1	MLT34102	
													/	Clinical Enzymology	MLT34103	
													/	Diagnostic Parasitology 1	MLT34104	
													/	Blood Transfusion	MLT34105	
													/	Pathology	MLT34106	
													/	Professional Ethics	MLT34107	
													/	Research Methods	MLT34108	
													/	Clinical Immunology 2	MLT34201	
													/	Diagnostic Bacteriology 2	MLT34202	
													/	Stem Cell Biology and Embryology	MLT34209	
													/	Diagnostic Parasitology 2	MLT34204	
													/	Clinical Chemistry	MLT34210	
													/	Antimicrobial Resistance and Infection Control	MLT34211	
													/	Laboratory	MLT34212	

															Managem ent		
														/	Graduatio n Project	MLT342 13	

**Review the performance of the higher education institution
((Review of the academic program))**

Course Description

This course description provides a summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, proving whether he has made the most of the available learning opportunities and must be linked to the program description

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	- Department: Medical Laboratory Techniques - Branch
3. Course Name / Code	Advanced Laboratory Techniques / Theoretical
4. Programs in Which the Course Is Included	Bachelor's Degree in Laboratory Analysis
5. Available Attendance Modes	Attendance in the Classroom and Laboratory
6. Semester / Year	First Semester 2025-2026
7. Total Number of Study Hours	30 hours
8. Date of Preparation of This Description	1-9-2026

Course Objectives:

The course aims to teach students how to perform various techniques related to advance pathological analyses that were not included in their training programs during the previous two years and that are related to different specialized topics.

9. Learning Outcomes and Teaching, Learning, and Assessment Methods:

By the end of this academic year, the student should be familiar with the following techniques:

1. Advanced examinations of various body fluids, such as urine and cerebrospinal fluid, semen analysis, in addition to specific techniques for stool examination.
2. Diagnostic immunological tests, such as single immunodiffusion for complement diagnosis and estimation of the quantities of immunoglobulins and other components of blood serum and various body fluids.
3. Immunofluorescence tests and their applications in microbiological and immunological diagnosis.
4. Radiolabeling tests.
5. Various electrophoresis (immunoelectrophoresis) tests and their modifications.
6. Cellular immunity tests, such as phagocytosis, lymphocyte transformation, and others.
7. Techniques related to the preparation of chemical immunological materials using separation or preparation methods.

B - Subject-Specific Skills

1. Using immunological techniques for disease identification.
2. Using methods for identifying and diagnosing bacterial infections.
3. Using scientific techniques to detect genetic and cellular diseases.
4. The role of structural and functional factors in describing diseases affecting humans.

Teaching and Learning Methods

Through lectures, visual aids, attendance at scientific lectures in classrooms, and practical sessions in the laboratory.

Assessment Methods

1. Conducting daily quizzes.
2. Conducting monthly examinations.
3. Conducting semester and final examinations.
4. Attendance, curricular and extracurricular activities, and good conduct.

C - Thinking Skills

- Identifying the molecular structures of nucleic acids and their relationship to human traits, diseases, and abnormalities.
- Providing technical consultation related to diseases affecting humans.
- The feasibility of using scientific techniques to address genetic structural abnormalities occurring in humans.

Methods of study and learning

- Using modern educational models in teaching.
- Allocating a percentage of the grade to activities and participation.
- Managing lectures in a way that emphasizes the importance of time to students.

Assessment Methods

Through dialogue,
discussion, and daily tests.

D - General and Transferable Skills

- Technical skills for identifying differences between laboratory tests.
- Skills in detecting diseases through test results.
- Skills in providing medical consultation.

Course Structure					
Week	Hours	Required Learning Outcomes	Objective name	Learning Method	Assessment Method
1	2	Methods for Diagnosing Bacterial Infections	Bacterial Diagnosis (VIETIC System) & BACT Automated System	Lecture and Explanation	Quiz
2	2	Immunological Tests	Immunochromatography	Lecture and Explanation	Quiz
3	2	Method for Measuring Ag & Ab in Samples	ELISA	Lecture and Explanation	Quiz
4	2	Method for Detecting Ag Inside Cells	Immunofluorescence & Radioimmunoassay	Lecture and Explanation	Quiz
5	2	Method for Analyzing Cells and Identifying Their Characteristics	Flow Cytometry	Lecture and Explanation	Quiz
6-7	4	Tissue Culture Methods	Tissue Culture	Lecture and Explanation	Quiz
8	2	Method for Testing Fluid Purity	Turbidimetry	Lecture and Explanation	Quiz
9-10	4	Methods for Separation of Proteins and Amino Acids	Separation Techniques, Separation of Proteins, Separation of Amino Acids	Lecture and Explanation	Quiz
11-12	4	Methods for Analyzing Body Fluids	Fluid Analysis (CSF, Synovial Fluid, Seminal Fluid, Urine)	Lecture and Explanation	Quiz
13	2	Type of PCR	Types of PCR	Lecture and Explanation	Quiz
14	2	Genetic Analysis Methods and Gene Sequencing	Microarrays	Lecture and Explanation	Quiz
15	2	Genetic Engineering Technique for Modifying the Gene Inside the Cell	CRISPR	Lecture and Explanation	Quiz

2. Infrastructure	
Required Readings • Basic Texts. • Course Books. Other Sources.	References: 1. Methods of medical 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)
Special Requirements (Workshops, Journals, Software, Websites):	Websites 1- MBCI 2- OMIM
Community Services (Guest Lectures, Professional Training, Field Studies, Other)	Organizing workshops and courses for graduates
3. Admission	
Prerequisites	
Minimum Number of Students	100
Maximum Number of Students	160

Instructor's Name: Asst. Prof. Haider Fadhil Jawad

Course Description

1. General Information

Item	Details
Course Name	Histopathology
Course Code	MLT33101 – First Course
Semester / Academic Year	First Semester / 2025–2026
Date of Preparation	19 September 2026
Mode of Attendance	Face-to-face attendance in the classroom/laboratory
Total Weekly Hours	2 hours per week (theoretical) + 2 hours per week (practical)
Course Coordinator	Zahraa Aboud Mohsen 
Email	zahraa.aboud@alzahu.edu.iq

2. Course Objectives

Category	Description
General Objective	To provide students with a comprehensive and up-to-date understanding of histopathology.
Specific Objective	To establish a sound knowledge base in histopathology and modern techniques, enabling students to keep pace with the medical community in which they will work after graduation, particularly in hospitals.

Learning Objectives

By the end of the course, students should be able to:

1. Define theoretical histopathology.
2. Identify the most common histopathological diseases.
3. Understand the mechanisms involved in the development of histopathological diseases.
4. Understand the genetic and environmental factors that contribute to the development of histopathological diseases.
5. Apply practical diagnostic methods using available modern equipment, such as microtomes, light microscopes, and electron microscopes.

3. Teaching and Learning Strategies

No.	Teaching and Learning Strategy
1	Students learn how to prepare histological slides, preserve specimens, and transfer them to the laboratory.
2	Students learn how to perform histopathological examinations for diagnostic purposes by cutting diseased tissue using a microtome, placing the sections on slides, and examining them under a light microscope.
3	Students acquire the skills required to operate microtomes and light microscopes.

4. Course Assessment

First Course Topics

Week	Hours	Intended Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
Week 1	2	Knowledge	Introduction	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 2	2	Knowledge	History of Pathology	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 3	2	Knowledge	Cell Injury and Cell Death	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 4	2	Knowledge	Inflammation	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz

Week	Hours	Intended Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
Week 5	2	Knowledge	Tissue Repair (Healing)	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 6	2	Knowledge	Hemodynamic Disorders	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 7	2	Knowledge	Cellular Adaptations of Growth and Differentiation	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 8	2	Knowledge	Neoplasia	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 9	2	Knowledge	Diseases of the Immune System	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 10	2	Knowledge	Nutritional Diseases	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz

Week	Hours	Intended Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
Week 11	2	Knowledge	Physical and Chemical Injuries	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 12	2	Knowledge	Concretions	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 13	2	Knowledge	Genetic Diseases	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 14	2	Knowledge	Obstructive Circulatory Disturbances	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 15	2	Knowledge	General Pathology of Infectious Diseases	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz

Examination and Review

Item	Details
Examination	First-course examination
General Review	Comprehensive review of the course material

Item	Details
Grade Distribution	The total grade is distributed out of 100 marks among the theoretical examination, practical examination, student activities, and attendance.

5. Learning and Teaching Resources

Category	Details
Required Textbook / Prescribed Curriculum	The prescribed curriculum approved by the relevant sectoral committees
Main References	<i>Pathologic Basis of Disease</i> , 8th edition, 2012
	<i>Junqueira's Basic Histology</i> , 15th edition, 2018
	<i>Pathology Illustrated</i> , 17th edition, 2011
Additional Supporting References	Scientific journals, reports, and other relevant academic references
Electronic Resources and Websites	NCBI; Google Scholar

Course Description Form

1. Course Name: Analytical biostatistics	
2. Course Code: MLT-2 -33210	
3. Semester / Year:3 rd 2025/2026	
4. Description Preparation Date:2025-2026	
5. Available Attendance Forms: Daily attendance	
6. Number of Credit Hours (Total) / Number of Units 2 Hours (Total) 30 week	
7. Course administrator's name (mention all, if more than one name)	
Name: Prof. Dr. Abed Alhussein Hebeeb	
8. Course Objectives	
Course Objectives	- Teaching the student the basics statistics - Teaching the student how to perform different tests in biostatistics - Teaching the student how to analyze and present statistical results

9. Teaching and Learning Strategies					
Strategy	1. Education Strategy Collaborative Concept Planning 2- Brainstorming education strategy. 3. Education Strategy Notes Series 4- Presentation, training, discussion research and reports				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
	2	Knowledge	Introduction	Use whiteboard and display	Daily exam and oral questions
2	2	Knowledge	Probabilities And Distributions .	Use whiteboard and display	Daily exam and oral questions
3	2	Knowledge	Probabilities And Distributions	Use whiteboard and display	Daily exam and oral questions
4	2	Knowledge	Correlation and Regression Analysis (Concept and analysis).	Use whiteboard and display	Daily exam and oral questions
5	2	Knowledge	Correlation and Regression Analysis (Concept and analysis).	Use whiteboard and display	Daily exam and oral questions

	2	

6	2	Knowledge	Hypothesis Testing: Introduction. Definition of test , level of significance, degrees of freedom, Error type.	Use whiteboard and display	Daily exam and oral questions
7	2	Knowledge	. Hypothesis Testing: Introduction. Definition of test , level of significance, degrees of freedom, Error type.	Use whiteboard and display	Daily exam and oral questions
8	2	Knowledge	Z-test and t-test	Use whiteboard and display	Daily exam and oral questions
9	2	Knowledge	Z-test and t-test	Use whiteboard and display	Daily exam and oral questions
10	2	Knowledge	Chi-square test.	Use whiteboard and display	Daily exam and oral questions
11	2	Knowledge	Analysis of Variance (ANOVA).	Use whiteboard and display	Daily exam and oral questions
12	2	Knowledge	Analysis of Variance (ANOVA).	Use whiteboard and display	Daily exam and oral questions
13	2	Knowledge	Questionnaire:	Use whiteboard	Daily exam and

	3	

			Design and Analysis of Questionnaire.	and display	oral questions
14	2	Knowledge	Final Report, Introduction, Statistical Analysis, Discussion Results.	Use whiteboard and display	Daily exam and oral questions
15			Examination	Use whiteboard and display	Daily exam and oral questions

11.Course Evaluation

5 marks are calculated on reports
5 points are calculated on daily exams
5 degrees are calculated on the daily preparation
And the rest of the grade is for the monthly exams

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Analytical biostatistics books
Main references (sources)	Curriculum scheduled within the sectoral committees
Recommended books and references (scientific journals, reports...)	1- Professor (Dr.)Amjad Daoud Niazi:"Statistical Analysis In Medical Research" 2nd Edition ; March 2004. 2-Wayne W.Daniel: Biostatistics "Basic Concepts and Methodology for the Health Sciences" 9th Edition ;2010
Electronic References, Websites	ncbi,google scholar, reserachgate



Lecturer : Prof. Dr. Abed Al Hussein Habeeb

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Course Description Form

1. Course Name: Antibiotic resistance (theoretical)	
2. Course Code: MLT34211	
3. Semester 2 / Year:4 th 2025/2026	
4. Description Preparation Date:2026	
5. Available Attendance Forms: Daily attendance	
6. Number of Credit Hours (Total) / Number of Units 2 Hours (Total) 15 week	
7. Course administrator's name (mention all, if more than one name)	
Name: Sinan Forat Hussein Email: sinanalmottar@gmail.com	
8. Course Objectives	
Course Objectives	- Teaching the student the basics of antibiotic resistance - Teaching the student the main groups of antibiotics their mechanism of action and possible ways of bacterial resistance

- Teaching the student how to prevent the spread of antibiotic resistance

9. Teaching and Learning Strategies

Strategy	1. Education Strategy Collaborative Concept Planning 2- Brainstorming education strategy. 3. Education Strategy Notes Series 4- Presentation, training, discussion research and reports
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Knowledge	Introduction to Antibiotics (Definition - discovery-sources)	Use whiteboard and display	Daily exam and oral questions
2	2	Knowledge	Antibiotics (Types, Uses and side effects)	Use whiteboard and display	Daily exam and oral questions
3	2	Knowledge	Antibiotics (Types, Uses and side effects)	Use whiteboard and display	Daily exam and oral questions
4	2	Knowledge	Mode of action of Antibiotics	Use whiteboard and display	Daily exam and oral questions
5	2	Knowledge	Cell wall Inhibition(Beta-	Use whiteboard	Daily exam and

			Lactams - penicillins, cephalosporins, carbapenems and monobactams)	and displa	oral questi ons
6	2	Knowledge	Mycolic acid and arabinogalactan biosynthesis Inhibition in mycobacteria	Use whiteboar and displa	Daily exam and oral questi ons
7	2	Knowledge	Protein synthesis Inhibition (Aminoglycosides, Tetracyclines,Chlo ramphenicol etc.)	Use whiteboar and displa	Daily exam and oral questi ons
8	2	Knowledge	Protein synthesis Inhibition (Aminoglycosides, Tetracyclines,Chlo ramphenicol etc.)	Use whiteboar and displa	Daily exam and oral questi ons
9	2	Knowledge	Nucleic acid Inhibition (Fluoroquinolones, Rifampicin and rifabutin)	Use whiteboar and displa	Daily exam and oral questi ons
10	2	Knowledge	Microbialmetabolism Inhibition (Sulphonamides,DH FR inhibitors — trimethoprim etc.)	Use whiteboar and displa	Daily exam and oral questi ons
11	2	Knowledge	Antibiotic resistance (Basis ,causes , Types -MDR, XDR,	Use whiteboar and displa	Daily exam and oral questi ons

	3	

			PDR and control)		
12	2	Knowledge	<u>Antibiotic resistance</u> (Basis ,causes , Types -MDR, XDR, PDR and control)	Use whiteboard and display	Daily exam and oral questions
13	2	Knowledge	Antibiotic Susceptibility tests (disk diffusion method –MIC tests) and Interpretation of the Results	Use whiteboard and display	Daily exam and oral questions
14	2	Knowledge	Infection control	Use whiteboard and display	Daily exam and oral questions
15			Infection control	Use whiteboard and display	Daily exam and oral questions

11.Course Evaluation

5 marks are calculated on reports

5 points are calculated on daily exams

5 degrees are calculated on the daily preparation

And the rest of the grade is for the monthly exams

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)

**1-Stephen P Denyer,Norman
Hodges, Sean PGorman .(2004)
Hugo and Russell's Pharmaceutical
Microbiology.Blackwell Science
Ltd.7th edition**

2-Jawetz, Melnick

	&Adelberg's.(2019):Medical Microbiology.Twenty-Eighth Edition. 3-Connie R. Mahon, Donald Lehman (2019): Textbook Diagnostic Microbiology, Six Edition. 4-Bailey &scott's (201' Diagnostic microbiology,fourteenth edition
Main references (sources)	Curriculum scheduled within t sectoral committees
Recommended books and references (scientific journals, reports...)	1-Stephen P Denyer,Norman A Hodges, Sean PGorman .(2004). Hugo and Russell's Pharmaceutical Microbiology.Blackwell Science Ltd.7th edition 2-Jawetz, Melnick, &Adelberg's.(2019):Medical Microbiology.Twenty-Eighth Edition. 3-Connie R. Mahon, Donald C. Lehman (2019): Textbook of Diagnostic Microbiology, Sixth Edition. 4-Bailey &scott's (2017): Diagnostic microbiology,fourteenth edition
Electronic References, Websites	ncbi,google scholar,reserachgate

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Lecturer : Sinan Forat Hussein

	6	

Course Description Form

1. Course Name: Clinical enzymology (theoretical)	
2. Course Code: MLT34103	
3. Semester 2 / Year:4 th 2025/2026	
4. Description Preparation Date:2026	
5. Available Attendance Forms: Daily attendance	
6. Number of Credit Hours (Total) / Number of Units 2 Hours (Total) 15 week	
7. Course administrator's name (mention all, if more than one name)	
Name: Sinan Forat Hussein Email: sinanalmottar@gmail.com	
8. Course Objectives	
Course Objectives	- Teaching the student the basics of clinical enzymology - Teaching the student the clinical applications of serum enzyme elevation - Teaching the student how to diagnose a disease depending on serum

	enzyme elevation
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9. Teaching and Learning Strategies

Strategy	1. Education Strategy Collaborative Concept Planning 2- Brainstorming education strategy. 3. Education Strategy Notes Series 4- Presentation, training, discussion research and reports
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Knowledge	Introduction	Use whiteboard and display	Daily exam and oral questions
2	2	Knowledge	Definition of enzyme, chemical nature	Use whiteboard and display	Daily exam and oral questions
3	2	Knowledge	Mechanism of enzyme action: Lock and key model and induced fit theory	Use whiteboard and display	Daily exam and oral questions
4	2	Knowledge	Mechanism of enzyme action: Lock and key	Use whiteboard and display	Daily exam and oral questions

	2	

			model and induced fit theory		
5	2	Knowledge	Active site, Substrate binding site, Catalytic site.	Use whiteboard and display	Daily exam and oral questions
6	2	Knowledge	Active site, Substrate binding site, Catalytic site	Use whiteboard and display	Daily exam and oral questions
7	2	Knowledge	Classification with examples & Enzyme Specificity	Use whiteboard and display	Daily exam and oral questions
8	2	Knowledge	Factors affecting enzyme activity	Use whiteboard and display	Daily exam and oral questions
9	2	Knowledge	ENZYMES OF CLINICAL SIGNIFICANCE Creatine Kinase, Lactate Dehydrogenase	Use whiteboard and display	Daily exam and oral questions
10	2	Knowledge	Alanine Aminotransferase, Acid Phosphatase	Use whiteboard and display	Daily exam and oral questions
11	2	Knowledge	Glutamyl transferase, Amylase, Lipase Glucose-6-Phosphate Dehydrogenase	Use whiteboard and display	Daily exam and oral questions
12	2	Knowledge	Drug-Metabolizing Enzymes	Use whiteboard and display	Daily exam and oral questions
13	2	Knowledge	Diagnostic	Use whiteboard	Daily exam and

			Enzymology (Clinical importance of enzymes)	and display	oral questions
14	2	Knowledge	Diagnostic Enzymology (Clinical importance of enzymes)	Use whiteboard and display	Daily exam and oral questions
15			Examination	Use whiteboard and display	Daily exam and oral questions

11.Course Evaluation

5 marks are calculated on reports
5 points are calculated on daily exams
5 degrees are calculated on the daily preparation
And the rest of the grade is for the monthly exams

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	TEXTBOOK OF BIOCHEMISTRY (Sixth Edition)Michael L. Bishop, MS, CLS, MT(ASCP). Concepts and Methodology for the Health Sciences 9th Edition ;2010
Main references (sources)	Curriculum scheduled within the sectoral committees
Recommended books and references (scientific journals, reports...)	TEXTBOOK OF BIOCHEMISTRY (Sixth Edition)Michael L. Bishop, MS, CLS, MT(ASCP). Concepts and Methodology for the

	Health Sciences" 9 th Edition ;2010
Electronic References, Websites	ncbi,google scholar,reserachgate



Lecturer : Sinan Forat Hussein

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Course Description Form

1. Course Name: Clinical immunology (theoretical)	
2. Course Code: MLT34101	
3. Semester 1 / Year:4 th 2025/2026	
4. Description Preparation Date:2026	
5. Available Attendance Forms: Daily attendance	
6. Number of Credit Hours (Total) / Number of Units 2 Hours (Total) 15 week	
7. Course administrator's name (mention all, if more than one name)	
Name: Sinan Forat Hussein Email: sinanalmottar@gmail.com	
8. Course Objectives	
Course Objectives	- Teaching the student the basics of clinical immunology - Teaching the student the clinical applications of autoimmune disease - Teaching the student how to diagnose a disease depending on serum

	enzyme elevation, symptoms and signs
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9. Teaching and Learning Strategies

Strategy	1. Education Strategy Collaborative Concept Planning 2- Brainstorming education strategy. 3. Education Strategy Notes Series 4- Presentation, training, discussion research and reports
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Knowledge	The subjects under each disease included: Definition of disease, clinical features, Immunopathogenicity, Criteria for classification (If possible), Epidemiology, Lab-findings, Diagnosis &Differential diagnosis I- Rheumatic	Use whiteboard and display	Daily exam and oral questions

	2	

			Diseases		
			.1 Rheumatoid Arthritis		
2	2	Knowledge	Systemic Lupus Erythematosus	Use whiteboard and display	Daily exam and oral questions
3	2	Knowledge	Sjögren's Syndrome	Use whiteboard and display	Daily exam and oral questions
4	2	Knowledge	Ankylosing Spondylitis	Use whiteboard and display	Daily exam and oral questions
5	2	Knowledge	Behcet's Disease	Use whiteboard and display	Daily exam and oral questions
6	2	Knowledge	Psoriatic Arthritis	Use whiteboard and display	Daily exam and oral questions
7	2	Knowledge	II- Liver & Gastrointestinal Diseases 1. Gluten sensitive Enteropathy	Use whiteboard and display	Daily exam and oral questions
8	2	Knowledge	Type A Gastritis (Pernicious Anemia) Type B Gastritis (Mucosa-associated lymphoid tissue lymphoma)	Use whiteboard and display	Daily exam and oral questions
9	2	Knowledge	INFLAMMATORY BOWEL	Use whiteboard and display	Daily exam and oral questions

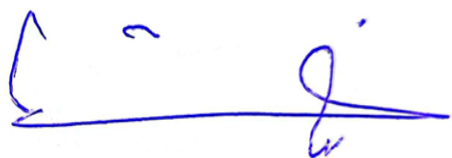
			DISEASES: 1. Ulcerative Colitis 2. Crohn's Disease	and displa	
10	2	Knowledge	LIVER & GALL BLADDER DISORDERS: 1.Autoimmune Chronic Active hepatitis (AIH)	Use whiteboard and displa	Daily exam and oral questi ons
11	2	Knowledge	Primary Biliary Cirrhosis Primary Sclerosing Cholangitis	Use whiteboard and displa	Daily exam and oral questi ons
12	2	Knowledge	<u>Renal Diseases</u> A. Circulating immune complexes Disorders 1.Serum Sickness 2.Lupus Nephritis	Use whiteboard and displa	Daily exam and oral questi ons
13	2	Knowledge	Post infectionomerulonephritis Membrano proliferative glomerulonephritis (MPGN) with cryoglobulinemia	Use whiteboard and displa	Daily exam and oral questi ons
14	2	Knowledge	In situ immune complex	Use whiteboard	Daily exam and

	4	

			formation related diseases 1.Membranous glomerulonephritis (Nephrotic Syndrome). 2.IgA-Nephropathy 3.Henoch-Schonlein Purpura (HSP).	and displa	oral questi ons
15			Antineutrophil Cytoplasmic Autoantibodies (ANCA) -associated diseases 1. Wegener's granulomatosis 2. Microscopic polyangiitis 3. Churg-Strauss Vasculitis D. T Lymphocyte mediated Renal InjuryTubulointerstitial nephritis(TIN)	Use whiteboar and displa	Daily exam and oral questi ons
11.Course Evaluation					
5 marks are calculated on reports					
5 points are calculated on daily exams					

	5	

5 degrees are calculated on the daily preparation And the rest of the grade is for the monthly exams	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Analytical biostatistics books
Main references (sources)	Curriculum scheduled within t sectoral committees
Recommended books and references (scientific journals, reports...)	Chapel and Haeney's Essentials of Clinical Immunology, 7th Edition, Siraj A. Misbah, Gavin P. Spickett, Virgil A.S.H. Dalm, 2023. Clinical Immunology: Principles and Practice 5th Edition,2018, by Robert R. Rich MD (Author), Thomas A. Fleisher MD FAAAAI FAAAAI (Author), William T. Shearer MD PhD (Author), Harry Schroeder (Author), Anthony J. Frew MD FRCP (Author), Cornelia M. Weyand MD PhD (Author)
Electronic References, Websites	ncbi,google scholar,reserachgate



Lecturer : Sinan Forat Hussein

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1. **Course Name:**
Histopathology
2. **Course Code:**
MLT33101
3. **Semester / Academic Year:**
First Semesters / 2025–2026
4. **Date of Preparation of the Course Description:**
19/09/2026
5. **Available Attendance Modes:**
Face-to-face attendance in the classroom/laboratory
6. **Total Number of Study Hours / Total Number of Units:**
 - 2 hours per week (theoretical)
 - 2 hours per week (practical)
7. **Course Coordinator:**
Name: Zahraa Aboud Mohsen
8. **Email:** zahraa.aboud@alzahu.edu.iq



8. Course Objectives

General Objective

To provide students with a comprehensive and up-to-date understanding of histopathology.

Specific Objective

To establish a strong knowledge base in histopathology and modern histological techniques, enabling students to keep pace with the medical community in which they will work after graduation, particularly in hospitals.

The course aims to enable students to:

1. Define practical histopathology.
2. Identify the most common histopathological diseases.
3. Understand the mechanisms involved in the development of histopathological diseases.
4. Understand the genetic and environmental factors that contribute to the development of histopathological diseases.
5. Apply practical diagnostic methods using available modern equipment, such as microtomes and light and electron microscopes.

9. Teaching and Learning Strategies

1. Students learn the skills required to prepare histological slides, preserve specimens, and transfer them to the laboratory.
2. Students learn how to perform histopathological examinations for diagnostic purposes by cutting diseased tissue using a microtome, placing the sections on slides, and examining them under a light microscope.
3. Students acquire the skills necessary to operate microtomes and light microscopes.

10. Course Assessment

Practical Course Topics—First and Second Semesters

Week	Hours	Required Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
1	2	Knowledge	Pathology laboratory management	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
2	2	Knowledge	Chemical safety in the laboratory	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
3	2	Knowledge	Light microscopy	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
4	2	Knowledge	Fixation of tissues	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
5	2	Knowledge	The gross room/surgical cut-up, including sample handling	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
6	2	Knowledge	Tissue processing	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
7	2	Knowledge	Microtomy for paraffin and frozen sections	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
8	2	Knowledge	Resin (plastic) embedding for microscopy and tissue analysis	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
9	2	Knowledge	Theory of histological staining	Lecture using the whiteboard and modern presentation tools, with	Attendance + quiz

Week	Hours	Required Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
				interactive student participation	
10	2	Knowledge	Hematoxylin and eosin	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
11	2	Knowledge	Automation in the histology department	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
12	2	Knowledge	Decalcification	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
13	2	Knowledge	Frozen Section and its Staining	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
14	2	Knowledge	Connective and other mesenchymal tissues with their stains	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
15	2	Knowledge	Carbohydrates		Attendance + quiz

Course Description Form

1. Course Name: biology practical1					
2. Course Code: MLT31103					
3. Semester1 / Year: 2025/2026					
4. Description Preparation Date:2025-9-19					
5. Available Attendance Forms: Daily attendance					
6. Number of Credit Hours (Total) / Number of Units 2 Hours (Total) 30 week					
7. Course administrator's name (mention all, if more than one name)					
name: Aqeela Sabah Ahmed					
email : aqeela.sabah@alzahu.edu.iq					
Course Objectives .8					
Course Objectives		includes a description of the material, the purpose of its study and the philosophy of its teaching, as this course aims to study the principles of Biology and the most important genetic laws and the importance of studying and classifying all living organisms and the role of primitive organisms And high-end on human health and the study of diseases and damage to some microorganisms on the organs of the human body Especially the eye.			
9. Teaching and Learning Strategies					
Strategy		1. Education Strategy Collaborative Concept Planning 2- Brainstorming education strategy. 3. Education Strategy Notes Series 4- Presentation, training, discussion research and reports			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Knowledge	The Microscope, Basic Microscope Techniques, Preparation of a Wet Mount	Use the whiteboard display	Daily exam and oral questions
2	2	Knowledge	Taxonomy, Study some Principle of Classification of Organisms	Use the whiteboard display	Daily exam and oral questions

3	2	Knowledge	Study Cell Structure and Functions, Animal cells, Nucleus, Nucleolus, Chromatin, Endoplasmic Reticulum, Ribosome	Use the whiteboard display	Daily exam and oral questions
4	2	Knowledge	Cell Wall, Cell Membrane, Cytoplasmic Matrix, Lysosomes, Golgi apparatus, Cilia, Flagella,	Use the whiteboard display	Daily exam and oral questions
5	2	Knowledge	Study Fluid-mosaic model of Plasma Membrane, Types of Transports, Passive, Osmosis, with Examples	Use the whiteboard display	Daily exam and oral questions
6	2	Knowledge	Chemistry of life, Study Biology of Polymerase, Levels of organization, Lipids, Carbohydrates, Proteins, Amino acid	Use the whiteboard display	Daily exam and oral questions
7	2	Knowledge	Study Characteristics of Prokaryotes Cells	Use the whiteboard display	Daily exam and oral questions

			and Eukaryotes Cells, Difference and Comparison		
8	2	Knowledge	Study Characteristics of living Organisms: Evaluation, Adaptation, Respiration, Homeostasis, Metabolism, Anabolism and Catabolism, Respond to stimuli, Reproduction	Use the whiteboard display	Daily exam and oral questi ons
9	2	Knowledge	Study Cell Mitosis, Nuclear Division, Cytoplasmic Division	Use the whiteboard display	Daily exam and oral questi ons
10	2	Knowledge	Study Meiosis (Human Reproduction), Spermatogenesis, Oogenesis	Use the whiteboard display	Daily exam and oral questi ons
11	2	Knowledge	Gene and Gene Action, DNA, RNA Structures.	Use the whiteboard display	Daily exam and oral questi ons
12	2	Knowledge	Genetic Codes, Replication, Translation, Transcription, Mutation	Use the whiteboard display	Daily exam and oral questi ons
13	2	Knowledge	Study Organ Systems (Digestive, Circulatory, Respiratory, Urinary, Muscularly, Nervous) and Functions	Use the whiteboard display	Daily exam and oral questi ons

14	2	Knowledge	Study Viruses structure, Virioids, Prions, Bacteriophages, Viral Life Cycle, Characteristics, Shapes, Viral Human Diseases, Harmful of Viruses	Use the whiteboard display	Daily exam and oral questions
15	2	Knowledge	Kingdom of Monera: Phylum Schizophyta (Bacteria), Classification Structure, Morphology, Growth, Function, Motility	Use the whiteboard display	Daily exam and oral questions
16			Examination		

11.Course Evaluation

5 marks are calculated on reports
5 points are calculated on daily exams
5 degrees are calculated on the daily preparation
And the rest of the grade is for the monthly exams

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Biology Books
Main references (sources)	Curriculum scheduled within the sectoral committees
Recommended books and references (scientific journals, reports...)	Biology Raven et al The cell M. Prakasn
Electronic References, Websites	ncbi,google scholar, reserachgate



م.م عقيلة صباح احمد

Course Description Form

1. Course Name: biology practical 2					
2. Course Code: MLT31203					
3. Semester / 2-Year-2025-2026					
4. Description Preparation Date:2025-9-19					
5. Available Attendance Forms: Daily attendance					
6. Number of Credit Hours (Total) / Number of Units 2 Hours (Total) 30 week					
7. Course administrator's name (mention all, if more than one name) name: Aqeela Sabah Ahmed email : aqeela.sabah@alzahu.edu.iq					
Course Objectives .8					
Course Objectives		includes a description of the material, the purpose of its study and the philosophy of its teaching, as this course aims to study the principles of Biology and the most important genetic laws and the importance of studying and classifying all living organisms and the role of primitive organisms And high-end on human health and the study of diseases and damage to some microorganisms on the organs of the human body Especially the eye.			
9. Teaching and Learning Strategies					
Strategy		1. Education Strategy Collaborative Concept Planning 2- Brainstorming education strategy. 3. Education Strategy Notes Series 4- Presentation, training, discussion research and reports			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Knowledge	Harmful Activity of Bacteria, (Bacterial Diseases in Human and Animals, Control of bacteria.	Use the whiteboard display	Daily exam and oral questions
2	2	Knowledge	Kingdom of Protista, Simple Algae, Harmful of Algae	Use the whiteboard display	Daily exam and oral questions

3	2	Knowledge	Kingdom of Protista, Protozoans, Classification of Pro	Use the whiteboard display	Daily exam and oral questi ons
4	2	Knowledge	Phylum of Sarcodina, Amoebae's, Phylum of Zoomastigina, Trypanosome, Giardia	Use the whiteboard display	Daily exam and oral questions
5	2	Knowledge	Phylum of Sporozoa. Plasmodium	Use the whiteboard display	Daily exam and oral questi ons
6	2	Knowledge	Kingdom of Fungi, Classification Reproduction	Use the whiteboard display	Daily exam and oral questi ons
7	2	Knowledge	Harmful Activities of Fungi	Use the whiteboard display	Daily exam and oral questi ons
8	2	Knowledge	Yeast and Yeast like Fungi, Characteristic and Classification, Candida.	Use the whiteboard display	Daily exam and oral questi ons
9	2	Knowledge	Kingdom of Animals, Classification, Invertebrates and Vertebrates, Importance to Human Diseases	Use the whiteboard display	Daily exam and oral questi ons
10	2	Knowledge	Human Bodies, Protection, Support and Locomotion	Use the whiteboard display	Daily exam and oral questi ons
11	2	Knowledge	Human Body Defense (Immunity, Antigen, Antibody), Hormones, Enzymes	Use the whiteboard display	Daily exam and oral questi ons
12	2	Knowledge	Helminths, Characteristics and Classification.	Use the whiteboard display	Daily exam and oral questi ons
13	2	Knowledge	Flat Worms, Round Worms, Classification, Harm full Activities to Human.	Use the whiteboard display	Daily exam and oral questi ons

14	2	Knowledge	Study Management of industrial, agricultural and medical waste, Referring to global Experiences	Use the whiteboard display	Daily exam and oral questi ons
15	2	Knowledge	Scientific Methods, Steps and Examples of Scientific Methods	Use the whiteboard display	Daily exam and oral questi ons
16			Examination		

11.Course Evaluation

5 marks are calculated on reports
5 points are calculated on daily exams
5 degrees are calculated on the daily preparation
And the rest of the grade is for the monthly exams

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Biology Books
Main references (sources)	Prof. Gonsalves, Biology 25: Human Biology, Los Angeles City College, Loosely Based on Mader's Human Biology, 7th edition
Recommended books and references (scientific journals, reports...)	Biology Raven et al The cell M. Prakasn
Electronic References, Websites	ncbi,google scholar,reserachgate



م.م عقيلة صباح احمد

1. **Course Name:**
Histopathology
2. **Course Code:**
MLT33101
3. **Semester / Academic Year:**
First and Second Semesters / 2025–2026
4. **Date of Preparation of the Course Description:**
19/09/2026
5. **Available Attendance Modes:**
Face-to-face attendance in the classroom/laboratory
6. **Total Number of Study Hours / Total Number of Units:**
 - 2 hours per week (theoretical)
 - 4 hours per week (practical)
7. **Course Coordinator:**
Name: Zahraa Aboud Mohsen
Email: zahraa.aboud@alzahu.edu.iq

8. Course Objectives

General Objective

To provide students with a comprehensive and up-to-date understanding of histopathology.

Specific Objective

To establish a strong knowledge base in histopathology and modern histological techniques, enabling students to keep pace with the medical community in which they will work after graduation, particularly in hospitals.

The course aims to enable students to:

1. Define practical histopathology.
2. Identify the most common histopathological diseases.
3. Understand the mechanisms involved in the development of histopathological diseases.
4. Understand the genetic and environmental factors that contribute to the development of histopathological diseases.
5. Apply practical diagnostic methods using available modern equipment, such as microtomes and light and electron microscopes.

9. Teaching and Learning Strategies

1. Students learn the skills required to prepare histological slides, preserve specimens, and transfer them to the laboratory.
2. Students learn how to perform histopathological examinations for diagnostic purposes by cutting diseased tissue using a microtome, placing the sections on slides, and examining them under a light microscope.
3. Students acquire the skills necessary to operate microtomes and light microscopes.

10. Course Assessment

Practical Course Topics—First and Second Semesters

Week	Hours	Required Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
1	2	Knowledge	Pathology laboratory management	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
2	2	Knowledge	Chemical safety in the laboratory	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
3	2	Knowledge	Light microscopy	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
4	2	Knowledge	Fixation of tissues	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
5	2	Knowledge	The gross room/surgical cut-up, including sample handling	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
6	2	Knowledge	Tissue processing	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
7	2	Knowledge	Microtomy for paraffin and frozen sections	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
8	2	Knowledge	Resin (plastic) embedding for microscopy and tissue analysis	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
9	2	Knowledge	Theory of histological staining	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz

Week	Hours	Required Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
10	2	Knowledge	Hematoxylin and eosin staining	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
11	2	Knowledge	Automation in the histology department	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
12	2	Knowledge	Decalcification	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
13	2	Knowledge	Frozen section and its staining	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
14	2	Knowledge	Connective and other mesenchymal tissues and their stains	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
15	2	Knowledge	Carbohydrates	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
16	2	Knowledge	Pigments and minerals	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
17	2	Knowledge	Amyloid	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
18	2	Knowledge	Traditional stains and modern techniques for demonstrating microorganisms in histology	Lecture using the whiteboard and modern presentation	Attendance + quiz

Week	Hours	Required Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
				tools, with interactive student participation	
19	2	Knowledge	Neuropathology and muscle biopsy techniques	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
20	2	Knowledge	Immunohistochemical techniques	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
21	2	Knowledge	Immunofluorescent techniques	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
22	2	Knowledge	Flow cytometry techniques	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
23	2	Knowledge	Enzyme histochemistry techniques	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
24	2	Knowledge	Transmission electron microscopy	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
25	2	Knowledge	Molecular pathology	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
26	2	Knowledge	Diagnostic cytology	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
27	2	Knowledge	Interpretation of Pap smears and fluid cytology	Lecture using the whiteboard and modern presentation	Attendance + quiz

Week	Hours	Required Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
				tools, with interactive student participation	
28	2	Knowledge	Interpretation of FNA smears	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
29	2	Knowledge	Cytopreparatory techniques for serous effusions	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
30	2	Knowledge	Digital pathology	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz

1. **Course Name:**
Histopathology
2. **Course Code:**
MLT33201
3. **Semester / Academic Year:**
Second Semesters / 2025–2026
4. **Date of Preparation of the Course Description:**
19/09/2026
5. **Available Attendance Modes:**
Face-to-face attendance in the classroom/laboratory
6. **Total Number of Study Hours / Total Number of Units:**
 - 2 hours per week (theoretical)
 - 2 hours per week (practical)
7. **Course Coordinator:**
Name: Zahraa Aboud Mohsen
8. **Email:** zahraa.aboud@alzahu.edu.iq



8. Course Objectives

General Objective

To provide students with a comprehensive and up-to-date understanding of histopathology.

Specific Objective

To establish a strong knowledge base in histopathology and modern histological techniques, enabling students to keep pace with the medical community in which they will work after graduation, particularly in hospitals.

The course aims to enable students to:

1. Define practical histopathology.
2. Identify the most common histopathological diseases.
3. Understand the mechanisms involved in the development of histopathological diseases.
4. Understand the genetic and environmental factors that contribute to the development of histopathological diseases.
5. Apply practical diagnostic methods using available modern equipment, such as microtomes and light and electron microscopes.

9. Teaching and Learning Strategies

1. Students learn the skills required to prepare histological slides, preserve specimens, and transfer them to the laboratory.
2. Students learn how to perform histopathological examinations for diagnostic purposes by cutting diseased tissue using a microtome, placing the sections on slides, and examining them under a light microscope.
3. Students acquire the skills necessary to operate microtomes and light microscopes.

10. Course Assessment

Practical Course Topics—First and Second Semesters

1	2	Knowledge	Pigments and minerals	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
2	2	Knowledge	Amyloid	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
3	2	Knowledge	Traditional stains and modern techniques for demonstrating microorganisms in histology	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
4	2	Knowledge	Neuropathology and muscle biopsy techniques	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
5	2	Knowledge	Immunohistochemical techniques	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
6	2	Knowledge	Immunofluorescent techniques	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
7	2	Knowledge	Flow cytometry techniques	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
8	2	Knowledge	Enzyme histochemistry techniques	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
9	2	Knowledge	Transmission electron microscopy	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
10	2	Knowledge	Molecular pathology	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
11	2	Knowledge	Diagnostic cytology	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
12	2	Knowledge	Interpretation of Pap smears and fluid cytology	Lecture using the whiteboard and modern presentation	Attendance + quiz

				tools, with interactive student participation	
13	2	Knowledge	Interpretation of FNA smears	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
14	2	Knowledge	Cytopreparatory techniques for serous effusions	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
15	2	Knowledge	Digital pathology	Lecture using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz

Course Description Form

1. Course Name: Antibiotic Resistance & Infection Control	
2. Course Code: MLT34211	
3. Semester 2 / Year: 4 th 2025/2026	
4. Description Preparation Date: 2026	
5. Available Attendance Forms: Daily attendance	
6. Number of Credit Hours (Total) / Number of Units 2 Hours (Total) 15 week	
7. Course administrator's name (mention all, if more than one name)	
Name: Mohammed Sadoon Hassan Email: Mohamed.sadoon@alzahu.edu.iq	
8. Course Objectives	
Course Objectives	- Teaching the student the basic concepts and mechanisms of antibiotic resistance. - Teaching the student the clinical significance of antibiotic resistance and its impact on infectious diseases. - Teaching the student how to detect and interpret antibiotic susceptibility patterns and identify antibiotic-resistant bacteria

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9. Teaching and Learning Strategies

Strategy	1. Education Strategy Collaborative Concept Planning 2- Brainstorming education strategy. 3. Education Strategy Notes Series 4- Presentation, training, discussion research and reports
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	Knowledge	Principles of Antibiotic suitability test (C&S)	Use whiteboard and display	Daily exam and oral questions
3	2	Knowledge	Disc diffusion method	Use whiteboard and display	Daily exam and oral questions
4-5	4	Knowledge	Minimum inhibitory curve	Use whiteboard and display	Daily exam and oral questions
6	2	Knowledge	Advanced AST techniques	Use whiteboard and display	Daily exam and oral questions

	2	

7	2	Knowledge	Reading the AST results	Use whiteboard and display	Daily exam and oral questions
8	2	Knowledge	Exam	Use whiteboard and display	Daily exam and oral questions
9	2	Knowledge	Interpretation of results	Use whiteboard and display	Daily exam and oral questions
10-11	4	Knowledge	CLSI	Use whiteboard and display	Daily exam and oral questions
12-13	4	Knowledge	Molecular method for study antibiotic resistance	Use whiteboard and display	Daily exam and oral questions
14-15	4	Knowledge	Exam	Use whiteboard and display	Daily exam and oral questions

11.Course Evaluation

5 marks are calculated on reports

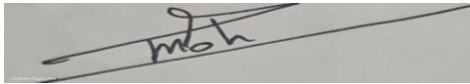
5 points are calculated on daily exams

5 degrees are calculated on the daily preparation

And the rest of the grade is for the monthly exams

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Analytical biostatistics books
Main references (sources)	Curriculum scheduled within the sectoral committees
Recommended books and references (scientific journals, reports...)	Jawetz, Melnick, &Adelberg's.(2019):Medical Microbiology.Twenty-Eighth Edition.



Lecturer : Mohammed Sadoon Hassan

Course Description

1. General Information

Item	Details
Course Name	Histopathology
Course Code	MLT33201 – Second Course
Semester / Academic Year	Second Semester / 2025–2026
Date of Preparation	19 September 2026
Mode of Attendance	Face-to-face attendance in the classroom/laboratory
Total Weekly Hours	2 hours per week (theoretical) + 2 hours per week (practical)
Course Coordinator	Zahraa Aboud Mohsen 
Email	zahraa.aboud@alzahu.edu.iq

2. Course Objectives

Category	Description
General Objective	To provide students with a comprehensive and up-to-date understanding of histopathology.

Category	Description
Specific Objective	To establish a sound knowledge base in histopathology and modern techniques, enabling students to keep pace with the medical community in which they will work after graduation, particularly in hospitals.

Learning Objectives

By the end of the course, students should be able to:

1. Define theoretical histopathology.
2. Identify the most common histopathological diseases.
3. Understand the mechanisms involved in the development of histopathological diseases.
4. Understand the genetic and environmental factors that contribute to the development of histopathological diseases.
5. Apply practical diagnostic methods using available modern equipment, such as microtomes, light microscopes, and electron microscopes.

3. Teaching and Learning Strategies

No.	Teaching and Learning Strategy
1	Students learn how diseases develop and occur.
2	Students learn how to distinguish between different diseases at the tissue level.
3	Students acquire the skills required to diagnose histopathological diseases, understand their mechanisms of development, and establish the appropriate diagnosis.

4. Course Assessment

Second Course Topics

Week	Hours	Intended Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
Week 1	2	Knowledge	Environment- and Lifestyle-Related Pathology	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 2	2	Knowledge	Nutritional Diseases	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 3	2	Knowledge	Genetic Diseases	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz

Week	Hours	Intended Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
Week 4	2	Knowledge	Clinical Aspects of Neoplasia	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 5	2	Knowledge	Molecular Basis of Cancer	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 6	2	Knowledge	Diseases Caused by Viruses	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz

Week	Hours	Intended Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
Week 7	2	Knowledge	Immunopathology, Including Amyloidosis	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 8	2	Knowledge	Genetic Diseases	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 9	2	Knowledge	Bone	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz

Week	Hours	Intended Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
Week 10	2	Knowledge	Techniques for Analyzing Bone	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 11	2	Knowledge	Neuropathology and Muscle	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 12	2	Knowledge	Biopsy Techniques	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz

Week	Hours	Intended Learning Outcomes	Unit / Topic	Teaching Method	Assessment Method
Week 13	2	Knowledge	Muscle Biopsies	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 14	2	Knowledge	Molecular Pathology	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz
Week 15	2	Knowledge	Techniques in Molecular Pathology	Lecture delivered using the whiteboard and modern presentation tools, with interactive student participation	Attendance + quiz

Examination and Review

Item	Details
Examination	Second-course examination
General Review	Comprehensive review of the course material
Grade Distribution	The total grade is distributed out of 100 marks among the theoretical examination, practical examination, student activities, and attendance.

5. Learning and Teaching Resources

Category	Details
Required Textbook / Prescribed Curriculum	The prescribed curriculum approved by the relevant sectoral committees
Main References	<i>Pathologic Basis of Disease</i> , 8th edition, 2012
	<i>Junqueira's Basic Histology</i> , 15th edition, 2018
	<i>Pathology Illustrated</i> , 17th edition, 2011
Additional Supporting References	Scientific journals, reports, and other relevant academic references
Electronic Resources and Websites	NCBI; Google Scholar

نموذج وصف المقرر

**Review the performance of the higher education institution
((review of the academic program)**

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical Laboratory Techniques
3. Course Name / Code	Medical Bacteriology – Practical,first Course MLT32101
4. Programs in which it is included	Bachelor Program in Medical Laboratory Techniques
5. Available Forms of Attendance	In-person (Laboratory Practical)
6. Semester / Year	first Semester – Second Academic Year
7. Total Number of Study Hours	Two hours weekly
8. Date of preparing this description	2025 2026
9. Course Objectives:Understand the mechanisms of preparation and sterilization of culture media. Understand the principles of bacterial staining and laboratory diagnostic tests.	
1. Learning Outcomes, Teaching and Learning Methods, and Evaluation Practical applications, group work.	

A. Knowledge and Understanding

Practical exams, evaluation of lab reports.

B. Subject-Specific Skills

Performing bacterial culturing and transfer techniques.

Using bacterial stains and identifying bacteria microscopically.

Teaching and Learning Methods

Practical applications, group work

C. Evaluation Methods

Evaluation of practical performance, report submission

D. Thinking Skills

**Analyzing laboratory results
Identifying the type of bacteria based on culture and staining results.**

Teaching and Learning Methods

Laboratory case studies, motivational questions

Evaluation Methods

Analytical practical exams, oral discussion

e. General and Transferable Skills

Accuracy and attention to detail.

Teamwork within the laboratory environment.

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11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	Knowledge	Orientation microbiology lab	Board & display	Daily exam & oral
2	2:00	Knowledge	Sterilization and disinfection	Board & display	Daily exam & oral
3	2:00	Knowledge	The microscope	Board & display	Daily exam & oral
4	2:00	Knowledge	Media preparation	Board & display	Daily exam & oral
5	2:00	Knowledge	Aseptic technique and culturing microbes. Mixed culture (isolating microbes from body and environment)	Board & display	Daily exam & oral
6	2:00	Knowledge	-Preparing streak plates of single bacterial strain. -Preparing streak plates to generate single colonies of strains from a mixed culture	Board & display	Daily exam & oral
7	2:00	Knowledge	Growth on different media	Board & display	Daily exam & oral
8	2:00	Knowledge	-Study colonial morphology and staining. -Gram and other staining techniques	Board & display	Daily exam & oral
9	2:00	Knowledge	Viable counts. -Growth curve from liquid medium	Board & display	Daily exam & oral
10	2:00	Knowledge	Microbial sensitivity to antibiotic	Board & display	Daily exam & oral
11	2:00	Knowledge	Initial identification of Staphylococcus,	Board & display	Daily exam & oral

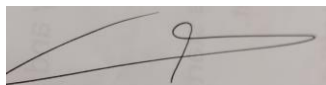
12	2:00	Knowledge	Initial identification of Streptococcus,	Board & display	Daily exam & oral
13	2:00	Knowledge	Listeria,	Board & display	Daily exam & oral
14	2:00	Knowledge	Corynebacterium	Board & display	Daily exam & oral

12. Infrastructure	
Required Readings:	References: Prescott's Microbiology, 11th Edition Tortora, Funke, Case – Microbiology: An Introduction, 12th Edition
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: Community Services (guest lectures, vocational training, field studies, others)
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates:

13.	
Prerequisites	Microbiology – Theory
Minimum Number of Students	5
Maximum Number of Students	30

Name of the Instructor:

م م خالد خيرى غاوي



khalidalmossawi06@gmail.com

نموذج وصف المقرر

Review the performance of the higher education institution ((review of the academic program))

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University College - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical Laboratory Techniques
3. Course Name / Code	MLT32101
4. Programs in which it is included	Bachelor Program in Medical Laboratory Techniques
5. Available Forms of Attendance	In-person (Laboratory Practical)
6. Semester / Year	first Semester – Second Academic Year
7. Total Number of Study Hours	Two hours weekly
8. Date of preparing this description	2025/2026
9. Course Objectives: Understand the mechanisms of preparation and sterilization of culture media. Understand the principles of bacterial staining and laboratory diagnostic tests.	
1. Learning Outcomes, Teaching and Learning Methods, and Evaluation Practical applications, group work.	

A. Knowledge and Understanding

Practical exams, evaluation of lab reports.

B. Subject-Specific Skills

Performing bacterial culturing and transfer techniques.

Using bacterial stains and identifying bacteria microscopically.

Teaching and Learning Methods

Practical applications, group work

C. Evaluation Methods

Evaluation of practical performance, report submission

D. Thinking Skills

Analyzing laboratory results
Identifying the type of bacteria based on culture and staining results.

Teaching and Learning Methods

Laboratory case studies, motivational questions

Evaluation Methods

Analytical practical exams, oral discussion

e. General and Transferable Skills

Accuracy and attention to detail.
Teamwork within the laboratory environment.
.

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	Knowledge	Orientation microbiology lab	Board & display	Daily exam & oral
2	2:00	Knowledge	Sterilization and disinfection	Board & display	Daily exam & oral
3	2:00	Knowledge	The microscope	Board & display	Daily exam & oral
4	2:00	Knowledge	Media preparation	Board & display	Daily exam & oral
5	2:00	Knowledge	Aseptic technique and culturing microbes. Mixed culture (isolating microbes from body and environment)	Board & display	Daily exam & oral
6	2:00	Knowledge	-Preparing streak plates of single bacterial strain. -Preparing streak plates to generate single colonies of strains from a mixed culture	Board & display	Daily exam & oral
7	2:00	Knowledge	Growth on different media	Board & display	Daily exam & oral
8	2:00	Knowledge	-Study colonial morphology and staining. -Gram and other staining techniques	Board & display	Daily exam & oral
9	2:00	Knowledge	Viable counts. -Growth curve from liquid medium	Board & display	Daily exam & oral
10	2:00	Knowledge	Microbial sensitivity to antibiotic	Board & display	Daily exam & oral
11	2:00	Knowledge	Initial identification of Staphylococcus,	Board & display	Daily exam & oral

12	2:00	Knowledge	Initial identification of Streptococcus,	Board & display	Daily exam & oral
13	2:00	Knowledge	Listeria,	Board & display	Daily exam & oral
14	2:00	Knowledge	Corynebacterium	Board & display	Daily exam & oral

12. Infrastructure	
Required Readings:	References: Prescott's Microbiology, 11th Edition Tortora, Funke, Case – Microbiology: An Introduction, 12th Edition
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: Community Services (guest lectures, vocational training, field studies, others)
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates:

13.	
Prerequisites	Microbiology – Theory
Minimum Number of Students	5
Maximum Number of Students	30



Name of the Instructor:

م.د. شيماء محمد علي

shimaa@alzahu.edu.iq

نموذج وصف المقرر

**Review the performance of the higher education institution
((review of the academic program)**

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University College - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	MLT32201
4. Programs in which it is included	Live attendance in the classroom
5. Available Forms of Attendance	Daily attendance
6. Semester / Year	2025-2026
7. Total Number of Study Hours	2Hr\ week total 30 week
8. Date of preparing this description	18\9\2026
Course Objectives: Providing the student with practical and theoretical information to teach him the basics of the medical bacteria and the goal of his studies	
1. Learning Outcomes, Teaching and Learning Methods, and Evaluation Education Strategy Collaborative Concept Planning 2- Brainstorming education strategy. 3. Education Strategy Notes Series 4- Presentation, training, discussion research and reports	

A. Knowledge and Understanding

B. Subject-Specific Skills

Teaching and Learning Methods

Lecture are delivered using the blackboard and modern display devices with interactive student participation

C. Evaluation Methods

Oral exam with surprise written exam and reports

D. Thinking Skills

Teaching and Learning Methods

Lecture are delivered using the blackboard and modern display devices with interactive student participation

Evaluation Methods

Oral exam with surprise written exam and reports

e. General and Transferable Skills

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11. Course Structure

Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2	knowledge	Neisseria	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
2	2	knowledge	Escherichia coli	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
3	2	knowledge	Pseudomonads and Acinetobacter	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
4	2	knowledge	Klebsiella	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
5	2	knowledge	Shigella and Salmonella	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
6	2	knowledge	Yersinia	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
7	2	knowledge	Vibrio	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
8	2	knowledge	Campylobacter	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam

9	2	knowledge	Helicobacter pylori	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
10	2	knowledge	Haemophilus	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
11	2	knowledge	Bordetella and Brucella	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
12	2	knowledge	Chlamydia	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
13	2	knowledge	Spirochetes	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
14	2	knowledge	Mycobacterium Mycoplasma and Rickettsia	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam

12. Infrastructure	
Required Readings:	References:
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites:
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates:

13.	
Prerequisites	
Minimum Number of Students	30
Maximum Number of Students	60



Name of the Instructor:
Dr. Shaimaa Mohammed Ali
shimaa@alzahu.edu.iq

**Review the performance of the higher education institution
((review of the academic program)**

Fundamentals of Biochemistry 1

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	Clinical- endocrinology-1/MLT 33104
4. Programs in which it is included	Bachelor of Biochemistry
5. Available Forms of Attendance	Daily Attendance in the classroom
6. Semester / Year	2025-2026 First Semester
7. Total Number of Study Hours	4 hours per week
8. Date of preparing this description	2025-2026
9. Course Objectives: Introducing the student to the basic principles related to clinical endocrinology concerning clinical chemistry and familiarizing the student with them. The curriculum vocabulary includes topics on the theoretical and practical foundations of laboratory tests in clinical chemistry, especially for evaluating the functions of clinical endocrinology for various diseases, and introduces important experiments with modern diagnostic techniques in the lab, giving students a new opportunity to get familiar with qualitative tests.	

10. Learning Outcomes, Teaching and Learning Methods.

A. Knowledge and Understanding

1. The student's knowledge of the types of compounds secreted by the endocrine glands.
2. The student's understanding of the reactions and effects of these compounds on body functions.
3. The student's awareness of the impact of these molecules on other body organs

B. Subject-Specific Skills

1. The student knows how to distinguish between the endocrine glands and their locations.
2. The student knows how the hormones secreted by the endocrine glands work and their effect on the functions of the organs

Teaching and Learning Methods

- 1- Giving (theoretical) lectures through pre-prepared lectures
- 2- Giving lectures in the form of diagrams through projection screens.

C. Evaluation Methods

- Conduct daily quick quizzes electronically.
- 2- Conduct monthly and semester exams in person.

D. Thinking Skills

1. Training medical staff who are able to understand the endocrine glands and the compounds they secrete (hormones) and how they affect the function of other organs.

e. General and Transferable Skills

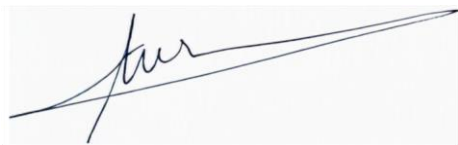
General and transferable skills (other skills related to employability and personal development). Part 1 - Developing the student's skills and abilities and gaining very important experience in understanding each gland and its secretions.

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2	knowledge	Introduction to Endocrinology and types of glands	Introduction to Endocrinology and types of glands	Daily Examination and Oral Questions
2-3	4	knowledge	MECHANISM OF ACTION OF HORMONES	MECHANISM OF ACTION OF HORMONES	Daily Examination and Oral Questions
4	2	Knowledge	The Hypothalamus releasing factors	The Hypothalamus releasing factors	Daily Examination and Oral Questions
5	2	knowledge	The pituitary anterior gland	The pituitary anterior gland	Daily Examination and Oral Questions
6	2	knowledge	The Melanocyte-Stimulating Hormone (MSH) produced by middle (intermediate) lobe. The Posterior Pituitary gland	The Melanocyte-Stimulating Hormone (MSH) produced by middle (intermediate) lobe. The Posterior Pituitary gland	Daily Examination and Oral Questions
7+8	4	knowledge	The Thyroid gland	The Thyroid gland	Daily Examination and Oral Questions
9	2	knowledge	The Parathyroid glands	The Parathyroid glands	Daily Examination and Oral Questions
10	2	Knowledge	The Pancreas gland	The Pancreas gland	Daily Examination and Oral Questions
11+12	2	Knowledge	The Adrenal glands	The Adrenal glands	Daily Examination and Oral Questions
13	2	knowledge	The Gonadal hormones	The Gonadal hormones	Daily Examination and Oral Questions

14+15	4	knowledge	Several other glandular tissues are considered to secrete hormones, viz.:(JG cells of kidney, Thymus, Pineal gland and GI tract	Several other glandular tissues are considered to secrete hormones, viz.:(JG cells of kidney, Thymus, Pineal gland and GI tract	Daily Examination and Oral Questions
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12. Infrastructure	
Required Readings:	References: 1- Textbook of biochemistry (Sixth Edition) For Medical Students DM Vasudevan, Sreekumari S and Kannan Vaidyanathan.. 2- Textbook of Medical Biochemistry Eighth Edition 2012. MN Chatterjea Rana Shinde. 3.Clinical Biochemistry Lecture Notes.Tenth - EditionHoboken, NJ: Wiley, 2018. Peter Rae. Mike Crane. Rebecca Pattenden
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: The Internet Scientific and Medical Journals
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates: Holding workshops and courses for graduates

13.	
Prerequisites	Admission according to the central plan
Minimum Number of Students	
Maximum Number of Students	Admission is greater than the capacity plan



Dr.Ameer Hassan Idan

**Review the performance of the higher education institution
((review of the academic program)**

Fundamentals of Biochemistry 1

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	Clinical Enzymology- 2/MLT 34103
4. Programs in which it is included	Bachelor of Biochemistry
5. Available Forms of Attendance	Daily Attendance in the lab
6. Semester / Year	2025-2026 Second Semester
7. Total Number of Study Hours	8 hours per week
8. Date of preparing this description	2025-2026
9. Course Objectives: Provide students with an understanding of the structure and function of a number of the body's main physiological systems and their role in maintaining the body's balance, as well as linking physiological processes to their fundamentals at the cellular level, estimating the normal values of vital activities in relation to different biological conditions, and clarifying the extent of these normal and abnormal values in pathological cases, practically and theoretically.	

10. Learning Outcomes, Teaching and Learning Methods.

1. Grades.

2. Discussion and Dialogue.

3. Tests.

Evaluation:

Grades: Research, Reports, and Tests

A. Knowledge and Understanding

1-1 Functions of the body's organs in a normal state of health.

1- 2 Functions of some body organs in diseased states.

1- 3 The importance of body fluids such as blood and lymph for human life.

1-4 Preparing trained and qualified laboratory personnel to work in medical laboratories

B. Subject-Specific Skills

B-1 Students acquire general knowledge of human organ functions.

B-2 Know how to handle and use laboratory materials and equipment.

B-3 Acquire practical laboratory examination skills.

Teaching and Learning Methods

Through theoretical and practical lectures and visual aids such as the blackboard and smart devices, and practical application of lectures in the laboratory by conducting laboratory examinations.

C. Evaluation Methods

1 - Short daily exams

2 - Termly exams

3 - Preparing reports for each student or each group on academic topics

D. Thinking Skills

D 1. Dialogue Method between Student and Professor.

D 2. Sample Preparation Skill.

D 3. Conducting Discussions and Interpreting Results.

D 4. Enabling the Student to Diagnose Abnormal Cases After Examining Them.

e. General and Transferable Skills

e 1. The student is able to apply the knowledge he has received.

e 2. The student is able to master the skill of the teaching and profession learning.

e 3. The student is able to embody what he has acquired in professional development.

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	knowledge	Reviews Subject biochemistry of enzyme	Use of the blackboard and overhead projector	Daily Examination and Oral Questions
2	2:00	knowledge	Reviews Subject biochemistry of enzyme	Use of the blackboard and overhead projector	Daily Examination and Oral Questions
3	2:00	Knowledge	Creatine Kinase test	Using the board and drawing blood samples from students	Daily Examination and Oral Questions
4	2:00	knowledge	Lactate Dehydrogenase	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
5	2:00	knowledge	Alanine Amino transferase, Aspartate Amino transferase	Use of the overhead projector and practical application	Daily Examination and Oral Questions
6	2:00	knowledge	-Glutamyltransferase	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
7	2:00	knowledge	Alkaline phosphates	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
8	2:00	Knowledge	Acidic phosphates	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
9	2:00	Knowledge	Amylase	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions

10	2:00	knowledge	Lipase	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
11	2:00	knowledge	Diagnostic Enzymology	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
12	2:00	Knowledge	Glucose-6-Phosphate Dehydrogenase	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
13	2:00	knowledge	Drug-Metabolizing Enzymes	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
14	2:00	knowledge	Enzymes tumor marker	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
15	2:00	Knowledge	Exam	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions

12. Infrastructure	
Required Readings:	References: TEXTBOOK OF BIOCHEMISTRY (Sixth Edition) Michael L. Bishop, MS, CLS, MT(ASCP).

13.	
Prerequisites	Admission according to the central plan
Minimum Number of Students	
Maximum Number of Students	Admission is greater than the capacity plan



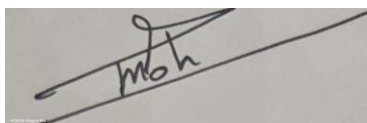
Asst. Lecturer.
MSC. Talib Salim Khenyab

Course Description Form

Course Name: VIROLOGY .1					
Course Code:MLT33103 .2					
Semester / Year:1 2025/2026 .3					
Description Preparation Date:2025-2026 .4					
Available Attendance Forms: Daily attendance .5					
Number of Credit Hours (Total) / Number of Units 2 Hours .6					
Course administrator's name (mention all, if more than one name) .7					
me: Mohammed Sadoon Hassan mail: Mohamed.sadoon@alzahu.edu.iq					
Course Objectives .8					
Course Objectives			Techening the student the • basic of fungal and viral diseases and how to diagnose and accurately describe them • Providing the student with practical and theory information to teach the basics of fungus, viruses and aim of studying		
Teaching and Learning Strategies .9					
Strategy		1. Education Strategy Collaborative Concept Planning 2- Brainstorming education strategy. 3. Education Strategy Notes Series 4- Presentation, training, discussion research and reports			
Course Structure .10					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	2 Knowledge	Laboratory safety guidelines and aseptic techniques	the whiteboard and display	daily exam and oral questions

2	2	Knowledge	Specimen Collection, Transport and Storage	the whiteboard display	Daily exam and oral questions
3	2	Knowledge	Direct viral examination (Light Microscopy , Electron Microscopy Examination	the whiteboard display	Daily exam and oral question ons
4	2	Knowledge	Isolation and cultivation of viruses	the whiteboard display	Daily exam and oral questi ons
5	2	Knowledge	Complement Fixation test	the whiteboard display	Daily exam and oral questi ons
6	2	Knowledge	Virus Neutralization test	the whiteboard display	Daily exam and oral questi ons
7	2	nowledge	Hemagglutination test	the whiteboard display	Daily exam and oral questi ons
8	2	nowledge	exam	the whiteboard display	Daily exam and oral questi ons
9	2	nowledge	Hemagglutination inhibition test	the whiteboard display	Daily exam and oral questi ons
10	2	nowledge	Radioimmunoassay (RIA)	the whiteboard display	Daily exam and oral questi ons
11	2	nowledge	ELISA test	the whiteboard display	Daily exam and oral questi ons
12	2	nowledge	exam	the whiteboard display	Daily exam and oral questi ons
13	2	nowledge	Immunofluorescence test	the whiteboard display	Daily exam and oral questi ons
14	2	nowledge	Western Blot test	the whiteboard display	Daily exam and oral questi ons
15			PCR (Conventional PCR)	the whiteboard display	Daily exam and oral questi ons
Course Evaluation.11					
5 marks are calculated on reports					
5 points are calculated on daily exams					
5 degrees are calculated on the daily preparation					

And the rest of the grade is for the monthly exams	
Learning and Teaching Resources .12	
Required textbooks (curricular books, if any)	Biology Books
Main references (sources)	rriculum scheduled within the sectoral committees
Recommended books and references (scientific journals, reports...)	Biology Raven et al The cell M. Prakasn
Electronic References, Websites	bi,google scholar,reserachgate



أستاذ المادة: محمد سعدون حسن

Review the performance of the higher education institution.

((Review of the academic program))

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

1. Educational Institution:

College of health& medical techniques

Department of medical laboratory techniques /Al- Zahrawi University

2. Course Name: Medical terminology

3. Course Code: MLT31102

4. Semester / First Semester : 2025/2026

5. Description Preparation Date:2025-2026

6. Available Attendance Forms: Daily attendance

**7. Number of Credit Hours (Total) / Number of Units 2 Hours/week
(Total) 30**

8. Course administrator's name

Me: Dr. Hanan Mohsen Ali

Email: hananmuhsen71@gmail.com

Course Objective .9

Course Objectives

General Objective

Mastery of medical terminology as a cornerstone for understanding clinical sciences within their field of specialization.

Specific Objectives:

Studying medical terminology.

10. Course Structure

Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2	The Knowledge	Introduction, defining medical terminology, techniques of medical word building elements of medical word, word root, suffixes, prefixes	Using the whiteboard and screen	Daily exam and oral questions
2	2	The Knowledge	Common prefixes, common suffixes ,body structure key terms ,level of organization: cell, tissue,organ, system	Using the whiteboard and screen	Daily exam and oral questions
3	2	The Knowledge	Pathology and abnormal condition :tumors, infection and inflammation ,symptoms ,disease , and diagnosis	Using the whiteboard and screen	Daily exam and oral questions
4	2	The Knowledge	Integumentary (skin) system	Using the whiteboard and screen	Daily exam and oral questions
5	2	The Knowledge	Musculoskeletal system	Using the whiteboard and screen	Daily exam and oral questions
6	2	The Knowledge	Digestive system and Cardiovascular system	Using the whiteboard and screen	Daily exam and oral questions
7	2	The Knowledge	Blood, lymph and immune system	Using the whiteboard and screen	Daily exam and oral questions
8	Monthly exam				

9	2	The Knowledge	Respiratory system	Using the whiteboard and screen	Daily exam and oral questions
10	2	The Knowledge	Nervous system and Special senses	Using the whiteboard and screen	Daily exam and oral questions
11	2	The Knowledge	Endocrine system	Using the whiteboard and screen	Daily exam and oral questions
12	2	The Knowledge	Urinary system and Reproductive system	Using the whiteboard and screen	Daily exam and oral questions
13	2	The Knowledge	Gynecology, pregnancy ,embryology and childbirth	Using the whiteboard and screen	Daily exam and oral questions
14	2	The Knowledge	Childhood, growth and development	Using the whiteboard and screen	Daily exam and oral questions
15	2	The Knowledge	Medical record activity and writing a diagnostic report	Using the whiteboard and screen	Daily exam and oral questions
			Mid- term exam		

11. Course Evaluation

- 5 marks are calculated on reports
- 5 points are calculated on daily exams
- 5 degrees are calculated on the daily preparation
- And the rest of the grade is for the monthly exams

12. Learning and Teaching Resources

Main references (sources)	
Recommended books and references (scientific journals, reports...)	<i>Nath, Judi Lindsley; Lindsley, Kelse A Short Course in Medical Terminology. Wolters Kluwer Health 2018.</i>
Electronic References, Websites	• ncbi, google scholar, research gate

13

Prerequisites	
Minimum Number of Students	
Maximum Number of Students	

اسم التدريسي : م.د. حنان محسن علي

Email: hananmuhsen71@gmail.com

**Review the performance of the higher education institution
((review of the academic program)**

Fundamentals of Biochemistry 1- MLT 33209

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University College - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	metabolic disorders
4. Programs in which it is included	Bachelor of Bio chemistry
5. Available Forms of Attendance	Daily Attendance in the lab
6. Semester / Year	2024-2025 First Semester
7. Total Number of Study Hours	8 hours per week
8. Date of preparing this description	2024-2025
9. Course Objectives: Provide students with an understanding of the structure and function of a number of the body's main physiological systems and their role in maintaining the body's balance, as well as linking physiological processes to their fundamentals at the cellular level, estimating the normal values of vital activities in relation to different biological conditions, and clarifying the extent of these normal and abnormal values in pathological cases, practically and theoretically.	

10.Learning Outcomes, Teaching and Learning Methods.

1. Grades.

2. Discussion and Dialogue.

3. Tests.

Evaluation:

**Grades: Research, Reports,
and Tests**

A. Knowledge and Understanding

1-1 Functions of the body's organs in a normal state of health.

1- 2 Functions of some body organs in diseased states.

1- 3 The importance of body fluids such as blood and lymph for human life.

1-4 Preparing trained and qualified laboratory personnel to work in medical laboratories

B. Subject-Specific Skills

B-1 Students acquire general knowledge of human organ functions.

B-2 Know how to handle and use laboratory materials and equipment.

B-3 Acquire practical laboratory examination skills.

Teaching and Learning Methods

Through theoretical and practical lectures and visual aids such as the blackboard and smart devices, and practical application of lectures in the laboratory by conducting laboratory examinations.

C. Evaluation Methods

1 - Short daily exams

2 - Termly exams

3 - Preparing reports for each student or each group on academic topics

D. Thinking Skills

D 1. Dialogue Method between Student and Professor.

D 2. Sample Preparation Skill.

D 3. Conducting Discussions and Interpreting Results.

**D 4. Enabling the Student to Diagnose Abnormal Cases
After Examining Them.**

e. General and Transferable Skills

- e 1. The student is able to apply the knowledge he has received.**
 - e 2. The student is able to master the skill of the teaching and profession learning.**
 - e 3. The student is able to embody what he has acquired in professional development.**
- .

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	knowledge	Estimation of molarity, molality, osmolarity, osmolality and Equivalent	Use of the blackboard and overhead projector	Daily Examination and Oral Questions
2	2:00	knowledge	Estimation of Na ⁺⁺ , K ⁺ , P ⁺⁺ and Ca	Use of the blackboard and overhead projector	Daily Examination and Oral Questions
3	2:00	Knowledge	Estimation of blood gases	Using the board and drawing blood samples from students	Daily Examination and Oral Questions
4	2:00	knowledge	Estimation of Ze and I	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
5	2:00	knowledge	Estimation of urea creatinine, and creatinine clearance	Use of the overhead projector and practical application	Daily Examination and Oral Questions
6	2:00	knowledge	Estimation of GOT, GPT and ALP	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
7	2:00	knowledge	Estimation of Bilirubin (direct and indirect)	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
8	2:00	Knowledge	Estimation of amylase enzyme	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
9	2:00	Knowledge	Estimation of triglyceride and cholesterol	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions

10	2:00	knowledge	Estimation of HDL and LDL and VLDL	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
11	2:00	knowledge	Estimation of total protein and Albumin/Globulin Ratio	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
12	2:00	Knowledge	Estimation of uric acid	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
13	2:00	knowledge	Estimation of Total iron and Iron binding capacity	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
14	2:00	knowledge	Estimation of HbA1c and BMI	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
15	2:00	Knowledge	Estimation of LDH ;CK,cardiac troponin and D-Dimers	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions

12. Infrastructure	
Required Readings:	References: 1- Textbook of biochemistry (Sixth Edition) For Medical Students DM Vasudevan, Sreekumari S and Kannan Vaidyanathan. 2.Textbook of Medical Biochemistry Eighth Edition 2012. MN Chatterjea Rana Shinde 3- Clinical Biochemistry Lecture Notes.Tenth EditionHoboken, NJ: Wiley, 2018. Peter Rae. Mike Crane. Rebecca Pattenden
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: The Internet Scientific and Medical Journals
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates: Holding workshops and courses for graduates

13.	
Prerequisites	Admission according to the central plan
Minimum Number of Students	
Maximum Number of Students	Admission is greater than the capacity plan

Name of the Instructor:

Prof. Dr.Abed Alhaussaian Habeeb

نموذج وصف المقرر

**Review the performance of the higher education institution
((review of the academic program))**

Fundamentals of Biochemistry 1- MLT 33209

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University College - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	metabolic disorders
4. Programs in which it is included	Bachelor of Bio chemistry
5. Available Forms of Attendance	Daily Attendance in the lab
6. Semester / Year	2024-2025 First Semester
7. Total Number of Study Hours	8 hours per week
8. Date of preparing this description	2024-2025
9. Course Objectives: Provide students with an understanding of the structure and function of a number of the body's main physiological systems and their role in maintaining the body's balance, as well as linking physiological processes to their fundamentals at the cellular level, estimating the normal values of vital activities in relation to different biological conditions, and clarifying the extent of these normal and abnormal values in pathological cases, practically and theoretically.	

10.Learning Outcomes, Teaching and Learning Methods.

1. Grades.

2. Discussion and Dialogue.

3. Tests.

Evaluation:

**Grades: Research, Reports,
and Tests**

A. Knowledge and Understanding

1-1 Functions of the body's organs in a normal state of health.

1- 2 Functions of some body organs in diseased states.

1- 3 The importance of body fluids such as blood and lymph for human life.

1-4 Preparing trained and qualified laboratory personnel to work in medical laboratories

B. Subject-Specific Skills

B-1 Students acquire general knowledge of human organ functions.

B-2 Know how to handle and use laboratory materials and equipment.

B-3 Acquire practical laboratory examination skills.

Teaching and Learning Methods

Through theoretical and practical lectures and visual aids such as the blackboard and smart devices, and practical application of lectures in the laboratory by conducting laboratory examinations.

C. Evaluation Methods

1 - Short daily exams

2 - Termly exams

3 - Preparing reports for each student or each group on academic topics

D. Thinking Skills

D 1. Dialogue Method between Student and Professor.

D 2. Sample Preparation Skill.

D 3. Conducting Discussions and Interpreting Results.

**D 4. Enabling the Student to Diagnose Abnormal Cases
After Examining Them.**

e. General and Transferable Skills

- e 1. The student is able to apply the knowledge he has received.**
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- .

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	knowledge	Estimation of molarity, molality, osmolarity, osmolality and Equivalent	Use of the blackboard and overhead projector	Daily Examination and Oral Questions
2	2:00	knowledge	Estimation of Na ⁺⁺ , K ⁺ , P ⁺⁺ and Ca	Use of the blackboard and overhead projector	Daily Examination and Oral Questions
3	2:00	Knowledge	Estimation of blood gases	Using the board and drawing blood samples from students	Daily Examination and Oral Questions
4	2:00	knowledge	Estimation of Ze and I	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
5	2:00	knowledge	Estimation of urea creatinine, and creatinine clearance	Use of the overhead projector and practical application	Daily Examination and Oral Questions
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Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: The Internet Scientific and Medical Journals
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates: Holding workshops and courses for graduates

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Prerequisites	Admission according to the central plan
Minimum Number of Students	
Maximum Number of Students	Admission is greater than the capacity plan

Name of the Instructor:

Prof. Dr.Abed Alhaussaian Habeeb

نموذج وصف المقرر

**Review the performance of the higher education institution
((review of the academic program))**

Fundamentals of Biochemistry 1

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	metabolic disorders
4. Programs in which it is included	Bachelor of Bio chemistry
5. Available Forms of Attendance	Daily Attendance in the lab
6. Semester / Year	2025-2026 Seconed Semester
7. Total Number of Study Hours	12 hours per week
8. Date of preparing this description	2025-2026
9. Course Objectives: Provide students with an understanding of the structure and function of a number of the body's main physiological systems and their role in maintaining the body's balance, as well as linking physiological processes to their fundamentals at the cellular level, estimating the normal values of vital activities in relation to different biological conditions, and clarifying the extent of these normal and abnormal values in pathological cases, practically and theoretically.	

10.Learning Outcomes, Teaching and Learning Methods.

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2. Discussion and Dialogue.

3. Tests.

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and Tests**

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2 - Termly exams

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D. Thinking Skills

D 1. Dialogue Method between Student and Professor.

D 2. Sample Preparation Skill.

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**D 4. Enabling the Student to Diagnose Abnormal Cases
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4	2:00	knowledge	Estimation of Ze and I	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
5	2:00	knowledge	Estimation of urea creatinine, and creatinine clearance	Use of the overhead projector and practical application	Daily Examination and Oral Questions
6	2:00	knowledge	Estimation of GOT, GPT and ALP	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
7	2:00	knowledge	Estimation of Bilirubin (direct and indirect)	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
8	2:00	Knowledge	Estimation of amylase enzyme	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
9	2:00	Knowledge	Estimation of triglyceride and cholesterol	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions

10	2:00	knowledge	Estimation of HDL and LDL and VLDL	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
11	2:00	knowledge	Estimation of total protein and Albumin/Globulin Ratio	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
12	2:00	Knowledge	Estimation of uric acid	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
13	2:00	knowledge	Estimation of Total iron and Iron binding capacity	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
14	2:00	knowledge	Estimation of HbA1c and BMI	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
15	2:00	Knowledge	Estimation of LDH ;CK,cardiac troponin and D-Dimers	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions

12. Infrastructure	
Required Readings:	References: 1- Textbook of biochemistry (Sixth Edition) For Medical Students DM Vasudevan, Sreekumari S and Kannan Vaidyanathan. 2.Textbook of Medical Biochemistry Eighth Edition 2012. MN Chatterjea Rana Shinde 3- Clinical Biochemistry Lecture Notes.Tenth EditionHoboken, NJ: Wiley, 2018. Peter Rae. Mike Crane. Rebecca Pattenden
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: The Internet Scientific and Medical Journals
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates: Holding workshops and courses for graduates

13.	
Prerequisites	Admission according to the central plan
Minimum Number of Students	
Maximum Number of Students	Admission is greater than the capacity plan



Asst. Lecturer:
MSC. Talib Salim Khenyab

نموذج وصف المقرر

**Review the performance of the higher education institution
((review of the academic program)**

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical Laboratory Techniques
3. Course Name / Code	Medical Bacteriology – Practical, Second Course MLT32201
4. Programs in which it is included	Bachelor Program in Medical Laboratory Techniques
5. Available Forms of Attendance	In-person (Laboratory Practical)
6. Semester / Year	Second Semester – Second Academic Year
7. Total Number of Study Hours	Two hours weekly
8. Date of preparing this description	2025 2026
9. Course Objectives: Understand the mechanisms of preparation and sterilization of culture media. Understand the principles of bacterial staining and laboratory diagnostic tests.	
1. Learning Outcomes, Teaching and Learning Methods, and Evaluation Practical applications, group work.	

A. Knowledge and Understanding

Practical exams, evaluation of lab reports.

B. Subject-Specific Skills

Performing bacterial culturing and transfer techniques.

Using bacterial stains and identifying bacteria microscopically.

Teaching and Learning Methods

Practical applications, group work

C. Evaluation Methods

Evaluation of practical performance, report submission

D. Thinking Skills

**Analyzing laboratory results
Identifying the type of bacteria based on culture and staining results**

Teaching and Learning Methods

Laboratory case studies, motivational questions

Evaluation Methods

Analytical practical exams, oral discussion

e. General and Transferable Skills

**Accuracy and attention to detail.
Teamwork within the laboratory environment**

•

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	Knowledge	Initial identification of Neisseria	Board & display	Daily exam & oral
2	2:00	Knowledge	Culturing on selective and deferential media. Biochemical tests, API	Board & display	Daily exam & oral
3	2:00	Knowledge	Identification of Enteric Gram-negative rods., E. coli, Klebsiella,	Board & display	Daily exam & oral
4	2:00	Knowledge	Proteus, Pseudomonas, Acinetobacter	Board & display	Daily exam & oral
5	2:00	Knowledge	, Shigella and salmonella	Board & display	Daily exam & oral
6	2:00	Knowledge	Initial identification of Yersinia	Board & display	Daily exam & oral
7	2:00	Knowledge	Initial identification of V.cholera	Board & display	Daily exam & oral
8	2:00	Knowledge	Initial identification of Campylobacter, Helicobacter	Board & display	Daily exam & oral
9	2:00	Knowledge	Haemophilus, Brucella-Bordetella	Board & display	Daily exam & oral
10	2:00	Knowledge	, Chlamydia,	Board & display	Daily exam & oral
11	2:00	Knowledge	Spirochaetes	Board & display	Daily exam & oral

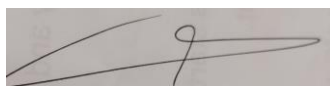
12	2:00	Knowledge	Mycoplasma	Board & display	Daily exam & oral
13	2:00	Knowledge	Rickettsia	Board & display	Daily exam & oral
14	2:00	Knowledge	Initial identification of MTB	Board & display	Daily exam & oral

12. Infrastructure	
Required Readings:	References: Prescott's Microbiology, 11th Edition Tortora, Funke, Case – Microbiology: An Introduction, 12th Edition
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: Community Services (guest lectures, vocational training, field studies, others)
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates:

13.	
Prerequisites	Microbiology – Theory
Minimum Number of Students	5
Maximum Number of Students	30

Name of the Instructor:

م م خالد خيرى غاوي



khalidalmossawi06@gmail.com

نموذج وصف المقرر

Review the performance of the higher education institution (review of the academic program)

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University College - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical Laboratory Techniques
3. Course Name / Code	MLT32201
4. Programs in which it is included	Bachelor Program in Medical Laboratory Techniques
5. Available Forms of Attendance	In-person (Laboratory Practical)
6. Semester / Year	Second Semester – Second Academic Year
7. Total Number of Study Hours	Two hours weekly
8. Date of preparing this description	2025/2026
9. Course Objectives: Understand the mechanisms of preparation and sterilization of culture media. Understand the principles of bacterial staining and laboratory diagnostic tests.	
1. Learning Outcomes, Teaching and Learning Methods, and Evaluation Practical applications, group work.	

A. Knowledge and Understanding

Practical exams, evaluation of lab reports.

B. Subject-Specific Skills

Performing bacterial culturing and transfer techniques.

Using bacterial stains and identifying bacteria microscopically.

Teaching and Learning Methods

Practical applications, group work

C. Evaluation Methods

Evaluation of practical performance, report submission

D. Thinking Skills

**Analyzing laboratory results
Identifying the type of bacteria based on culture and staining results**

Teaching and Learning Methods

Laboratory case studies, motivational questions

Evaluation Methods

Analytical practical exams, oral discussion

e. General and Transferable Skills

**Accuracy and attention to detail.
Teamwork within the laboratory environment**

.

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	Knowledge	Initial identification of Neisseria	Board & display	Daily exam & oral
2	2:00	Knowledge	Culturing on selective and deferential media. Biochemical tests, API	Board & display	Daily exam & oral
3	2:00	Knowledge	Identification of Enteric Gram-negative rods., E. coli, Klebsiella,	Board & display	Daily exam & oral
4	2:00	Knowledge	Proteus, Pseudomonas, Acinetobacter	Board & display	Daily exam & oral
5	2:00	Knowledge	, Shigella and salmonella	Board & display	Daily exam & oral
6	2:00	Knowledge	Initial identification of Yersinia	Board & display	Daily exam & oral
7	2:00	Knowledge	Initial identification of V.cholera	Board & display	Daily exam & oral
8	2:00	Knowledge	Initial identification of Campylobacter, Helicobacter	Board & display	Daily exam & oral
9	2:00	Knowledge	Haemophilus, Brucella-Bordetella	Board & display	Daily exam & oral
10	2:00	Knowledge	, Chlamydia,	Board & display	Daily exam & oral
11	2:00	Knowledge	Spirochaetes	Board & display	Daily exam & oral

12	2:00	Knowledge	Mycoplasma	Board & display	Daily exam & oral
13	2:00	Knowledge	Rickettsia	Board & display	Daily exam & oral
14	2:00	Knowledge	Initial identification of MTB	Board & display	Daily exam & oral

12. Infrastructure	
Required Readings:	References: Prescott's Microbiology, 11th Edition Tortora, Funke, Case – Microbiology: An Introduction, 12th Edition
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: Community Services (guest lectures, vocational training, field studies, others)
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates:

13.	
Prerequisites	Microbiology – Theory
Minimum Number of Students	5
Maximum Number of Students	30



Name of the Instructor:

م.د. شيماء محمد علي

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نموذج وصف المقرر

**Review the performance of the higher education institution
((review of the academic program)**

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical Laboratory Techniques
3. Course Name / Code	Medical Bacteriology – Practical, Second Course
4. Programs in which it is included	Bachelor Program in Medical Laboratory Techniques
5. Available Forms of Attendance	In-person (Laboratory Practical)
6. Semester / Year	Second Semester – Second Academic Year
7. Total Number of Study Hours	Two hours weekly
8. Date of preparing this description	2025 2026
9. Course Objectives: Understand the mechanisms of preparation and sterilization of culture media. Understand the principles of bacterial staining and laboratory diagnostic tests.	
1. Learning Outcomes, Teaching and Learning Methods, and Evaluation Practical applications, group work.	

A. Knowledge and Understanding

Practical exams, evaluation of lab reports.

B. Subject-Specific Skills

Performing bacterial culturing and transfer techniques.

Using bacterial stains and identifying bacteria microscopically.

Teaching and Learning Methods

Practical applications, group work

C. Evaluation Methods

Evaluation of practical performance, report submission

D. Thinking Skills

**Analyzing laboratory results
Identifying the type of bacteria based on culture and staining results**

Teaching and Learning Methods

Laboratory case studies, motivational questions

Evaluation Methods

Analytical practical exams, oral discussion

e. General and Transferable Skills

**Accuracy and attention to detail.
Teamwork within the laboratory environment**

.

11. Course Structure

Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	Knowledge	Initial identification of <i>Neisseria</i>	Board & display	Daily exam & oral
2	2:00	Knowledge	Culturing on selective and deferential media. Biochemical tests, API	Board & display	Daily exam & oral
3	2:00	Knowledge	Identification of Enteric Gram-negative rods., <i>E. coli</i> , <i>Klebsiella</i> ,	Board & display	Daily exam & oral
4	2:00	Knowledge	<i>Proteus</i> , <i>Pseudomonas</i> , <i>Acinetobacter</i>	Board & display	Daily exam & oral
5	2:00	Knowledge	, <i>Shigella</i> and <i>salmonella</i>	Board & display	Daily exam & oral
6	2:00	Knowledge	Initial identification of <i>Yersinia</i>	Board & display	Daily exam & oral
7	2:00	Knowledge	Initial identification of <i>V.cholera</i>	Board & display	Daily exam & oral
8	2:00	Knowledge	Initial identification of <i>Campylobacter</i> , <i>Helicobacter</i>	Board & display	Daily exam & oral
9	2:00	Knowledge	<i>Haemophilus</i> , <i>Brucella-Bordetella</i>	Board & display	Daily exam & oral
10	2:00	Knowledge	, <i>Chlamydia</i> ,	Board & display	Daily exam & oral
11	2:00	Knowledge	<i>Spirochaetes</i>	Board & display	Daily exam & oral

12	2:00	Knowledge	Mycoplasma	Board & display	Daily exam & oral
13	2:00	Knowledge	Rickettsia	Board & display	Daily exam & oral
14	2:00	Knowledge	Initial identification of MTB	Board & display	Daily exam & oral

12. Infrastructure	
Required Readings:	References: Prescott's Microbiology, 11th Edition Tortora, Funke, Case – Microbiology: An Introduction, 12th Edition
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: Community Services (guest lectures, vocational training, field studies, others)
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates:

13.	
Prerequisites	Microbiology – Theory
Minimum Number of Students	5
Maximum Number of Students	30

Name of the Instructor:

م م خالد خيرى غاوي
khalidalmossawi06@gmail.com

نموذج وصف المقرر

**Review the performance of the higher education institution
(review of the academic program)**

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical Laboratory Techniques
3. Course Name / Code	Medical Bacteriology – Practical, Second Course
4. Programs in which it is included	Bachelor Program in Medical Laboratory Techniques
5. Available Forms of Attendance	In-person (Laboratory Practical)
6. Semester / Year	Second Semester – Second Academic Year
7. Total Number of Study Hours	Two hours weekly
8. Date of preparing this description	2025 2026
9. Course Objectives: Understand the mechanisms of preparation and sterilization of culture media. Understand the principles of bacterial staining and laboratory diagnostic tests.	
1. Learning Outcomes, Teaching and Learning Methods, and Evaluation Practical applications, group work.	

A. Knowledge and Understanding

Practical exams, evaluation of lab reports.

B. Subject-Specific Skills

Performing bacterial culturing and transfer techniques.

Using bacterial stains and identifying bacteria microscopically.

Teaching and Learning Methods

Practical applications, group work

C. Evaluation Methods

Evaluation of practical performance, report submission

D. Thinking Skills

Analyzing laboratory results
Identifying the type of bacteria based on culture and staining results

Teaching and Learning Methods

Laboratory case studies, motivational questions

Evaluation Methods

Analytical practical exams, oral discussion

e. General and Transferable Skills

Accuracy and attention to detail.
Teamwork within the laboratory environment

.

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	Knowledge	Initial identification of Neisseria	Board & display	Daily exam & oral
2	2:00	Knowledge	Culturing on selective and deferential media. Biochemical tests, API	Board & display	Daily exam & oral
3	2:00	Knowledge	Identification of Enteric Gram-negative rods., E. coli, Klebsiella,	Board & display	Daily exam & oral
4	2:00	Knowledge	Proteus, Pseudomonas, Acinetobacter	Board & display	Daily exam & oral
5	2:00	Knowledge	, Shigella and salmonella	Board & display	Daily exam & oral
6	2:00	Knowledge	Initial identification of Yersinia	Board & display	Daily exam & oral
7	2:00	Knowledge	Initial identification of V.cholera	Board & display	Daily exam & oral
8	2:00	Knowledge	Initial identification of Campylobacter, Helicobacter	Board & display	Daily exam & oral
9	2:00	Knowledge	Haemophilus, Brucella-Bordetella	Board & display	Daily exam & oral
10	2:00	Knowledge	, Chlamydia,	Board & display	Daily exam & oral
11	2:00	Knowledge	Spirochaetes	Board & display	Daily exam & oral

12	2:00	Knowledge	Mycoplasma	Board & display	Daily exam & oral
13	2:00	Knowledge	Rickettsia	Board & display	Daily exam & oral
14	2:00	Knowledge	Initial identification of MTB	Board & display	Daily exam & oral

12. Infrastructure	
Required Readings:	References: Prescott's Microbiology, 11th Edition Tortora, Funke, Case – Microbiology: An Introduction, 12th Edition
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: Community Services (guest lectures, vocational training, field studies, others)
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates:

13.	
Prerequisites	Microbiology – Theory
Minimum Number of Students	5
Maximum Number of Students	30

Name of the Instructor:

م م خالد خيرى غاوي
khalidalmossawi06@gmail.com

نموذج وصف المقرر

Review the performance of the higher education institution (review of the academic program)

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	Human Physiology Practical-MLT32103
4. Programs in which it is included	Bachelor's
5. Available Forms of Attendance	Daily Attendance in the lab
6. Semester / Year	2025-2026 Second Semester
7. Total Number of Study Hours	4 hours per week
8. Date of preparing this description	2025-2026
9. Course Objectives: Provide students with an understanding of the structure and function of a number of the body's main physiological systems and their role in maintaining the body's balance, as well as linking physiological processes to their fundamentals at the cellular level, estimating the normal values of vital activities in relation to different biological conditions, and clarifying the extent of these normal and abnormal values in pathological cases, practically and theoretically.	

10.Learning Outcomes, Teaching and Learning Methods.

- 1. Grades.**
- 2. Discussion and Dialogue.**
- 3. Tests.**

Evaluation:

Grades: Research, Reports, and Tests

A. Knowledge and Understanding

- 1-1 Functions of the body's organs in a normal state of health.**
- 1- 2 Functions of some body organs in diseased states.**
- 1- 3 The importance of body fluids such as blood and lymph for human life.**
- 1-4 Preparing trained and qualified laboratory personnel to work in medical laboratories**

B. Subject-Specific Skills

- B-1 Students acquire general knowledge of human organ functions.**
- B-2 Know how to handle and use laboratory materials and equipment.**
- B-3 Acquire practical laboratory examination skills.**

Teaching and Learning Methods

Through theoretical and practical lectures and visual aids such as the blackboard and smart devices, and practical application of lectures in the laboratory by conducting laboratory examinations.

C. Evaluation Methods

- 1 - Short daily exams**
- 2 - Termly exams**
- 3 - Preparing reports for each student or each group on academic topics**

D. Thinking Skills

- D 1. Dialogue Method between Student and Professor.**
- D 2. Sample Preparation Skill.**
- D 3. Conducting Discussions and Interpreting Results.**
- D 4. Enabling the Student to Diagnose Abnormal Cases After Examining Them.**

e. General and Transferable Skills

- e 1. The student is able to apply the knowledge he has received.**
- e 2. The student is able to master the skill of the teaching and profession learning.**
- e 3. The student is able to embody what he has acquired in professional development.**

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	Knowledge	Urine Sample: Importance, Method of Collection, Preparation, Physical Examination of Urine Sample	Use of the blackboard and overhead projector	Daily Examination and Oral Questions
2	2:00	Knowledge	Microscopic Examination of Urine	Use of the blackboard and overhead projector	Daily Examination and Oral Questions
3	2:00	Knowledge	Microscopic Examination of Urine: The identification of Bacteria, Yeast, Mucus, Casts, .. Etc.	Using the board and drawing blood samples from students	Daily Examination and Oral Questions
4	2:00	Knowledge	Chemical Examination of Urine	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
5	2:00	Knowledge	Semen Analysis: Type of Collection & Physical Examination	Use of the overhead projector and practical application	Daily Examination and Oral Questions
6	2:00	Knowledge	Semen Analysis: Cell Counting Technique. Semen Analysis: Motility, Viability, & Morphology	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
7	2:00	Knowledge	Repeat Semen Analysis	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
8	2:00	Knowledge	Blood Group	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
9	2:00	Knowledge	Stethoscope and its uses	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions

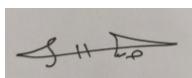
10	2:00	Knowledge	Blood Pressure	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
11	2:00	Knowledge	ESC	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
12	2:00	Knowledge	Body Temperature	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions

12. Infrastructure	
Required Readings:	References: Text book of medical physiology; Guyton & Hal Practical physiology: Eotvos Lorand University. Review of medical physiology; William F. Ganon. Manual of practical physiology.
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: The Internet Scientific and Medical Journals
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates: Holding workshops and courses for graduates

13.	
Prerequisites	Admission according to the central plan
Minimum Number of Students	
Maximum Number of Students	Admission is greater than the capacity plan

Name of the Instructor:

MSC . Hamza Turki Muhi



hmzttky39@gmail.com

نموذج وصف المقرر

Review the performance of the higher education institution (review of the academic program)

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	Human Physiology Practical-MLT32103
4. Programs in which it is included	Bachelor's
5. Available Forms of Attendance	Daily Attendance in the lab
6. Semester / Year	2025-2026 First Semester
7. Total Number of Study Hours	4 hours per week
8. Date of preparing this description	2025-2026
9. Course Objectives: Provide students with an understanding of the structure and function of a number of the body's main physiological systems and their role in maintaining the body's balance, as well as linking physiological processes to their fundamentals at the cellular level, estimating the normal values of vital activities in relation to different biological conditions, and clarifying the extent of these normal and abnormal values in pathological cases, practically and theoretically.	

10.Learning Outcomes, Teaching and Learning Methods.

1. Grades.

2. Discussion and Dialogue.

3. Tests.

Evaluation:

**Grades: Research, Reports,
and Tests**

A. Knowledge and Understanding

1-1 Functions of the body's organs in a normal state of health.

1- 2 Functions of some body organs in diseased states.

1- 3 The importance of body fluids such as blood and lymph for human life.

1-4 Preparing trained and qualified laboratory personnel to work in medical laboratories

B. Subject-Specific Skills

B-1 Students acquire general knowledge of human organ functions.

B-2 Know how to handle and use laboratory materials and equipment.

B-3 Acquire practical laboratory examination skills.

Teaching and Learning Methods

Through theoretical and practical lectures and visual aids such as the blackboard and smart devices, and practical application of lectures in the laboratory by conducting laboratory examinations.

C. Evaluation Methods

1 - Short daily exams

2 - Termly exams

3 - Preparing reports for each student or each group on academic topics

D. Thinking Skills

D 1. Dialogue Method between Student and Professor.

D 2. Sample Preparation Skill.

D 3. Conducting Discussions and Interpreting Results.

**D 4. Enabling the Student to Diagnose Abnormal Cases
After Examining Them.**

e. General and Transferable Skills

e 1. The student is able to apply the knowledge he has received.

**e 2. The student is able to master the skill of the teaching and
profession learning.**

**e 3. The student is able to embody what he has acquired in
professional development.**

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	Knowledge	Introduction: Characteristics of good technician	Use of the blackboard and overhead projector	Daily Examination and Oral Questions
2	2:00	Knowledge	Specimen: Type, Collection, and Preparation. Specimen identification	Use of the blackboard and overhead projector	Daily Examination and Oral Questions
3	2:00	Knowledge	Blood collection by skin punctures (Capillary Blood) Types of Syringes used in blood collection.	Using the board and drawing blood samples from students	Daily Examination and Oral Questions
4	2:00	Knowledge	. Blood sample Hemolysis: Reasons and how to avoid. Blood Coagulants: Types and Uses. (EDTA, Citrate, Oxalate, Heparin, sodium fluoride)	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
5	2:00	Knowledge	Type of anticoagulant used and their effect on Blood Cell Morphology.	Use of the overhead projector and practical application	Daily Examination and Oral Questions
6	2:00	Knowledge	Blood separation to Cells, plasma, and serum. Transport, and storage blood sample	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
7	2:00	Knowledge	Blood Smear: Preparation and Importance.	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
8	2:00	Knowledge	PCV	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
9	2:00	Knowledge	RBCs. Manual and Electronic Method	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions

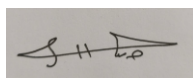
10	2:00	Knowledge	WBCs. Manual and Electronic Method	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
11	2:00	Knowledge	. Determination of Hemoglobin: Cyanmethemoglobin Method	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions
12	2:00	Knowledge	Determination of Hemoglobin: Electronic Method ((CBC))	Use of the board and overhead projector and practical application	Daily Examination and Oral Questions

12. Infrastructure	
Required Readings:	References: Text book of medical physiology; Guyton & Hal Practical physiology: Eotvos Lorand University. Review of medical physiology; William F. Ganon. Manual of practical physiology.
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: The Internet Scientific and Medical Journals
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates: Holding workshops and courses for graduates

13.	
Prerequisites	Admission according to the central plan
Minimum Number of Students	
Maximum Number of Students	Admission is greater than the capacity plan

Name of the Instructor:

MSC . Hamza Turki Muhi
hmzttky39@gmail.com



نموذج وصف المقرر

Review the performance of the higher education institution (review of the academic program)

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	Parasitology Practical_MLT32106
4. Programs in which it is included	Bachelor's
5. Available Forms of Attendance	Daily Attendance in the lab
6. Semester / Year	2024-2025 First Semester
7. Total Number of Study Hours	4 hours per week
8. Date of preparing this description	2025-2026
9. Course Objectives:	
1.The general objectives are that the student be able to know the microbiota and parasites that cause disease.	
2.Consolidation of all information and foundations required to understand and understand what parasites mean in our current and contemporary reality with all changes and challenges. •	
3. The student should be prepared and prepared to work efficiently and with distinction in the specialized sectors in our beloved country.	

10. Learning Outcomes, Teaching and Learning Methods.

- 1. Grades.**
- 2. Discussion and Dialogue.**
- 3. Tests.**

Evaluation:

**Grades: Research, Reports,
and Tests**

A. Knowledge and Understanding

- A-1. Teach the student the concept of parasitology and its general principles.**
- A-2. Acquire knowledge, understanding, and comprehension of the scientific course content.**
- A-3. Classify the theoretical and practical requirements for developing learning and teaching in a way appropriate to the scientific material.**
- A-4. Identify the different types of pathogenic parasites.**
- A-5. Understand the life cycles of parasites to determine their modes of transmission to humans.**

A-6. Recognize the pathological changes associated with parasitic infections, the clinical symptoms, and the various treatment methods

B. Subject-Specific Skills

- B-1: Acquiring general knowledge about the diagnosis of pathogenic parasites.**
- B-2: Understanding the methods of handling and disposing of specimens in the laboratory.**
- B-3: Acquiring practical skills in laboratory examination.**

Teaching and Learning Methods

Through theoretical and practical lectures, and using visual aids such as the whiteboard, smart devices, data show, glass slides, and specimen examination in the laboratory.

C. Evaluation Methods

- 1 - Short daily exams**
- 2 - Termly exams**
- 3 - Preparing reports for each student or each group on academic topics**

D. Thinking Skills

- D 1. Dialogue Method between Student and Professor.**
- D 2. Sample Preparation Skill.**
- D 3. Conducting Discussions and Interpreting Results.**
- D 4. Enabling the Student to Diagnose Abnormal Cases After Examining Them.**

e. General and Transferable Skills

- e 1. The student is able to apply the knowledge he has received.**
 - e 2. The student is able to master the skill of the teaching and profession learning.**
 - e 3. The student is able to embody what he has acquired in professional development.**
- .

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	Knowledge	Introduction; Parasites; Host; Zoonosis; Host-parasite Relationships; Life Cycle	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
2	2:00	Knowledge	Protozoa General Features; Structure; Reproduction; Life Cycle; Classification of Protozoa; Phylum Sarcomastigophora	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
3	2:00	Knowledge	Sacodina, (Amoebae) Entamoeba histolytica; History and Distribution; Morphology; Life Cycle;	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
4	2:00	Knowledge	Entamoeba Coli , Entamoeba Gingivalis; Endolimax nana Amoebae; naegleria Fowleri Morphology; Diagnosis Life Cycle	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
5	2:00	Knowledge	Giardia Lamblia; History and Distribution; Habitat; Morphology; Life Cycle; Pathogenicity and .Clinical Features Laboratory Diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
6	2:00	Knowledge	Genus Trichomonas. T. vaginalis/ urogenital flagellate. T. hominis T. tenax Biology, medical importance and Lab. Diagnosis of each species	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
7	2:00	Knowledge	Genus leishmania ,species of leishmania, biology, vector, medical each importance of species, types of leishmaniasis , life cycle Diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
8	2:00	Knowledge	Genus Trypanosoma, species of trypanosome, biology , vector,medical importance of each species, forms of parasite, life cycle, Lab. .Diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
9	2:00	Knowledge	Blantidiumcoli ,Biology , medical importance, .Lab. Diagnosis	Use of the blackboard and slides	Daily Examination

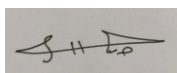
10	2:00	Knowledge	.Genus Toxoplasma.,T.gondii ,Biology, medical importance, Life cycle, .Lab. Diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
11	2:00	Knowledge	plasmodium , species of plasmodium. P.falciparum, P. vivax, P ovale, P. malarae Disease, pathology, medical importance, .life cycle	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
12	2:00	Knowledge	Genus cryptosporidium, species belong the genus, biology, pathology, Epidemiology .Lab.diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions

12. Infrastructure	
Required Readings:	References: 1- Foundations of parasitology. Seventh edition, Larry S. Roberts and John Janovy, JR. 20005 2-Veterinary parasitology. Third edition M A Taylor; R L Coop; R L Wall. 2007 3-Common Human Parasites In Iraq. Ph.D. Mohammed A.Kadir. 2014
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: The Internet Scientific and Medical Journals
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates: Holding workshops and courses for graduates

13.	
Prerequisites	Admission according to the central plan
Minimum Number of Students	
Maximum Number of Students	Admission is greater than the capacity plan

Name of the Instructor:

MSC. Hamza Turki Muhi
hmzttky39@gmail.com



نموذج وصف المقرر

Review the performance of the higher education institution (review of the academic program)

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	Parasitology Practical_MLT32106
4. Programs in which it is included	Bachelor's
5. Available Forms of Attendance	Daily Attendance in the lab
6. Semester / Year	2024-2025 First Semester
7. Total Number of Study Hours	4 hours per week
8. Date of preparing this description	2025-2026
9. Course Objectives:	
1.The general objectives are that the student be able to know the microbiota and parasites that cause disease.	
2.Consolidation of all information and foundations required to understand and understand what parasites mean in our current and contemporary reality with all changes and challenges. •	
3. The student should be prepared and prepared to work efficiently and with distinction in the specialized sectors in our beloved country.	

10. Learning Outcomes, Teaching and Learning Methods.

- 1. Grades.**
- 2. Discussion and Dialogue.**
- 3. Tests.**

Evaluation:

**Grades: Research, Reports,
and Tests**

A. Knowledge and Understanding

- A-1. Teach the student the concept of parasitology and its general principles.**
- A-2. Acquire knowledge, understanding, and comprehension of the scientific course content.**
- A-3. Classify the theoretical and practical requirements for developing learning and teaching in a way appropriate to the scientific material.**
- A-4. Identify the different types of pathogenic parasites.**
- A-5. Understand the life cycles of parasites to determine their modes of transmission to humans.**

A-6. Recognize the pathological changes associated with parasitic infections, the clinical symptoms, and the various treatment methods

B. Subject-Specific Skills

- B-1: Acquiring general knowledge about the diagnosis of pathogenic parasites.**
- B-2: Understanding the methods of handling and disposing of specimens in the laboratory.**
- B-3: Acquiring practical skills in laboratory examination.**

Teaching and Learning Methods

Through theoretical and practical lectures, and using visual aids such as the whiteboard, smart devices, data show, glass slides, and specimen examination in the laboratory.

C. Evaluation Methods

- 1 - Short daily exams**
- 2 - Termly exams**
- 3 - Preparing reports for each student or each group on academic topics**

D. Thinking Skills

- D 1. Dialogue Method between Student and Professor.**
- D 2. Sample Preparation Skill.**
- D 3. Conducting Discussions and Interpreting Results.**
- D 4. Enabling the Student to Diagnose Abnormal Cases After Examining Them.**

e. General and Transferable Skills

- e 1. The student is able to apply the knowledge he has received.**
 - e 2. The student is able to master the skill of the teaching and profession learning.**
 - e 3. The student is able to embody what he has acquired in professional development.**
- .

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	Knowledge	Introduction; Parasites; Host; Zoonosis; Host-parasite Relationships; Life Cycle	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
2	2:00	Knowledge	Protozoa General Features; Structure; Reproduction; Life Cycle; Classification of Protozoa; Phylum Sarcomastigophora	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
3	2:00	Knowledge	Sacodina, (Amoebae) Entamoeba histolytica; History and Distribution; Morphology; Life Cycle;	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
4	2:00	Knowledge	Entamoeba Coli , Entamoeba Gingivalis; Endolimax nana Amoebae; naegleria Fowleri Morphology; Diagnosis Life Cycle	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
5	2:00	Knowledge	Giardia Lamblia; History and Distribution; Habitat; Morphology; Life Cycle; Pathogenicity and .Clinical Features Laboratory Diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
6	2:00	Knowledge	Genus Trichomonas. T. vaginalis/ urogenital flagellate. T. hominis T. tenax Biology, medical importance and Lab. Diagnosis of each species	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
7	2:00	Knowledge	Genus leishmania ,species of leishmania, biology, vector, medical each importance of species, types of leishmaniasis , life cycle Diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
8	2:00	Knowledge	Genus Trypanosoma, species of trypanosome, biology , vector,medical importance of each species, forms of parasite, life cycle, Lab. .Diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
9	2:00	Knowledge	Blantidiumcoli ,Biology , medical importance, .Lab. Diagnosis	Use of the blackboard and slides	Daily Examination

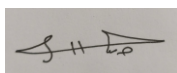
10	2:00	Knowledge	.Genus Toxoplasma.,T.gondii Biology, medical importance, Life cycle, .Lab. Diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
11	2:00	Knowledge	plasmodium , species of plasmodium. P.falciparum, P. vivax, P ovale, P. malarae Disease, pathology, medical importance, .life cycle	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
12	2:00	Knowledge	Genus cryptosporidium, species belong the genus, biology, pathology, Epidemiology .,Lab.diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions

12. Infrastructure	
Required Readings:	References: 1- Foundations of parasitology. Seventh edition, Larry S. Roberts and John Janovy, JR. 20005 2-Veterinary parasitology. Third edition M A Taylor; R L Coop; R L Wall. 2007 3-Common Human Parasites In Iraq. Ph.D. Mohammed A.Kadir. 2014
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: The Internet Scientific and Medical Journals
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates: Holding workshops and courses for graduates

13.	
Prerequisites	Admission according to the central plan
Minimum Number of Students	
Maximum Number of Students	Admission is greater than the capacity plan

Name of the Instructor:

MSC. Hamza Turki Muhi
hmzttky39@gmail.com



نموذج وصف المقرر

Review the performance of the higher education institution ((review of the academic program))

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	Parasitology and Medical Entomology Practical - MLT32206
4. Programs in which it is included	Bachelor's
5. Available Forms of Attendance	Daily Attendance in the lab
6. Semester / Year	2024-2025 Second Semester
7. Total Number of Study Hours	4 hours per week
8. Date of preparing this description	2025-2026
9. Course Objectives:	
1.The general objectives are that the student be able to know the microbiota and parasites that cause disease.	
2.Consolidation of all information and foundations required to understand and understand what parasites mean in our current and contemporary reality with all changes and challenges. •	
3. The student should be prepared and prepared to work efficiently and with distinction in the specialized sectors in our beloved country.	

10. Learning Outcomes, Teaching and Learning Methods.

- 1. Grades.**
- 2. Discussion and Dialogue.**
- 3. Tests.**

Evaluation:

**Grades: Research, Reports,
and Tests**

A. Knowledge and Understanding

- A-1. Teach the student the concept of parasitology and its general principles.**
- A-2. Acquire knowledge, understanding, and comprehension of the scientific course content.**
- A-3. Classify the theoretical and practical requirements for developing learning and teaching in a way appropriate to the scientific material.**
- A-4. Identify the different types of pathogenic parasites.**
- A-5. Understand the life cycles of parasites to determine their modes of transmission to humans.**

A-6. Recognize the pathological changes associated with parasitic infections, the clinical symptoms, and the various treatment methods

B. Subject-Specific Skills

- B-1: Acquiring general knowledge about the diagnosis of pathogenic parasites.**
- B-2: Understanding the methods of handling and disposing of specimens in the laboratory.**
- B-3: Acquiring practical skills in laboratory examination.**

Teaching and Learning Methods

Through theoretical and practical lectures, and using visual aids such as the whiteboard, smart devices, data show, glass slides, and specimen examination in the laboratory.

C. Evaluation Methods

- 1 - Short daily exams**
- 2 - Termly exams**
- 3 - Preparing reports for each student or each group on academic topics**

D. Thinking Skills

- D 1. Dialogue Method between Student and Professor.**
- D 2. Sample Preparation Skill.**
- D 3. Conducting Discussions and Interpreting Results.**
- D 4. Enabling the Student to Diagnose Abnormal Cases After Examining Them.**

e. General and Transferable Skills

- e 1. The student is able to apply the knowledge he has received.**
- e 2. The student is able to master the skill of the teaching and profession learning.**
- e 3. The student is able to embody what he has acquired in professional development.**

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11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2:00	Knowledge	Platyhelminth: <i>Tenia saginata</i> , <i>Tenia solium</i> : Morphology & the adult worm and the larval stages of each species life cycle, Lab. Diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
2	2:00	Knowledge	<i>Hymenolepis nana</i> , <i>diminuta</i> . <i>Hymenolepis Diploidium caninum</i> , <i>Diphyllobothrium latum</i> , morphology of each species, characteristic of the egg , Lab. Diagnosis.	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
3	2:00	Knowledge	<i>granulosus</i> . <i>Echinococcus multilocularis</i> . life cycle, medical importance ,Lab. Diagnosis.	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
4	2:00	Knowledge	<i>Schistosoma hematobium</i> . <i>Schistosoma mansoni</i> . Differences between species Lab.diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
5	2:00	Knowledge	<i>Fasciola hepatica</i> general characters characteristic of the eggs , Lab diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
6	2:00	Knowledge	<i>Ascaris lambricoides</i> <i>Enterobius vermicularis</i> , life cycle, medical importance of each species, , Lab. Diagnosis of each species.	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
7	2:00	Knowledge	<i>Trichuris trichura</i> . <i>Trichena spiralis</i> . life cycle , medical importance of each species , Lab. Diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
8	2:00	Knowledge	<i>Stroglyoides stercoralis</i> . life cycle, medical importance, characteristic of the larvae Lab. Diagnosis	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
9	2:00	Knowledge	<i>Ancylostoma duodenale</i> , <i>Necator Americans</i> (Hooks worm) life cycle Lab. Diagnosis.	Use of the blackboard and slides	Daily Examination
10	2:00	Knowledge	The filariae: life cycle, medical importance of each species, Lab. Diagnosis of each species Visceral larvae migrance, Cutaneous larvae migrance.	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions

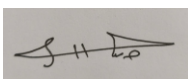
11	2:00	Knowledge	Entomolgy Sand fly, Black fly ,Mosquitoes :Morphology ,medical importance of each Species	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions
12	2:00	Knowledge	Ticks & Mites Fleas: . Morphology ,medical importance of each species	Use of the blackboard and overhead and slides	Daily Examination and Oral Questions

12. Infrastructure	
Required Readings:	References: 1- Foundations of parasitology. Seventh edition, Larry S. Roberts and John Janovy, JR. 20005 2-Veterinary parasitology. Third edition M A Taylor; R L Coop; R L Wall. 2007 3-Common Human Parasites In Iraq. Ph.D. Mohammed A.Kadir. 2014
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: The Internet Scientific and Medical Journals
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates: Holding workshops and courses for graduates

13.	
Prerequisites	Admission according to the central plan
Minimum Number of Students	
Maximum Number of Students	Admission is greater than the capacity plan

Name of the Instructor:

MSC. Hamza Turki Muhi
hmztky39@gmail.com



نموذج وصف المقرر

**Review the performance of the higher education institution
((review of the academic program)**

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University College - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	MLT32201
4. Programs in which it is included	Live attendance in the classroom
5. Available Forms of Attendance	Daily attendance
6. Semester / Year	2025-2026
7. Total Number of Study Hours	2Hr\ week total 15 week
8. Date of preparing this description	18\9\2026
Course Objectives: Providing the student with practical and theoretical information to teach him the basics of the medical bacteria and the goal of his studies	
1. Learning Outcomes, Teaching and Learning Methods, and Evaluation Education Strategy Collaborative Concept Planning 2- Brainstorming education strategy. 3. Education Strategy Notes Series 4- Presentation, training, discussion research and reports	

A. Knowledge and Understanding

B. Subject-Specific Skills

Teaching and Learning Methods

Lecture are delivered using the blackboard and modern display devices with interactive student participation

C. Evaluation Methods

Oral exam with surprise written exam and reports

D. Thinking Skills

Teaching and Learning Methods

Lecture are delivered using the blackboard and modern display devices with interactive student participation

Evaluation Methods

Oral exam with surprise written exam and reports

e. General and Transferable Skills

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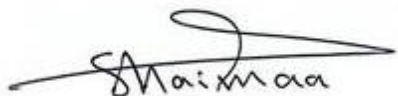
11. Course Structure

Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2	knowledge	Neisseria	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
2	2	knowledge	Escherichia coli	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
3	2	knowledge	Pseudomonads and Acinetobacter	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
4	2	knowledge	Klebsiella	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
5	2	knowledge	Shigella and Salmonella	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
6	2	knowledge	Yersinia	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
7	2	knowledge	Vibrio	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
8	2	knowledge	Campylobacter	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam

9	2	knowledge	Helicobacter pylori	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
10	2	knowledge	Haemophilus	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
11	2	knowledge	Bordetella and Brucella	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
12	2	knowledge	Chlamydia	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
13	2	knowledge	Spirochetes	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
14	2	knowledge	Mycobacterium Mycoplasma and Rickettsia	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam

12. Infrastructure	
Required Readings:	References:
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites:
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates:

13.	
Prerequisites	
Minimum Number of Students	30
Maximum Number of Students	60



Name of the Instructor:
Dr. Shaimaa Mohammed Ali
Email:shimaa@alzahu.edu.iq

نموذج وصف المقرر

**Review the performance of the higher education institution
((review of the academic program)**

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University College - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical laboratory techniques
3. Course Name / Code	MLT32101
4. Programs in which it is included	Live attendance in the classroom
5. Available Forms of Attendance	Daily attendance
6. Semester / Year	2025-2026
7. Total Number of Study Hours	2Hr\ week total 15 week
8. Date of preparing this description	18\9\2026
Course Objectives: Providing the student with practical and theoretical information to teach him the basics of the medical bacteria and the goal of his studies	
1. Learning Outcomes, Teaching and Learning Methods, and Evaluation Education Strategy Collaborative Concept Planning 2- Brainstorming education strategy. 3. Education Strategy Notes Series 4- Presentation, training, discussion research and reports	

A. Knowledge and Understanding

B. Subject-Specific Skills

Teaching and Learning Methods

Lecture are delivered using the blackboard and modern display devices with interactive student participation

C. Evaluation Methods

Oral exam with surprise written exam and reports

D. Thinking Skills

Teaching and Learning Methods

Lecture are delivered using the blackboard and modern display devices with interactive student participation

Evaluation Methods

Oral exam with surprise written exam and reports

e. General and Transferable Skills

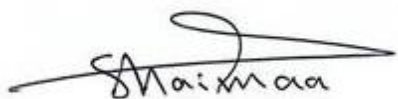
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11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2	knowledge	Introduction	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
2	2	knowledge	The structure of a generalized prokaryotic cell	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
3	2	knowledge	The structure of a generalized prokaryotic cell	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
4	2	knowledge	Microbial growth and metabolism	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
5	2	knowledge	Bacterial cultivation	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
6	2	knowledge	Metabolism (energy production)	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
7	2	knowledge	Nutrition cycle and regulation	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
8	2	knowledge	Bacterial genetic	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam

9	2	knowledge	Pathogenicity of bacteria	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
10	2	knowledge	Normal flora	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
11	2	knowledge	Chemotherapy and antibiotic resistance	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
12	2	knowledge	Chemotherapy and antibiotic resistance	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
13	2	knowledge	Vaccine and vaccination	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
14	2	knowledge	Medical bacteriology Gram positive cocci	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
15	2	knowledge	Streptococcus	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
16	2	knowledge	Gram positive spore forming bacilli Clostridium & Bacillus	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam
17	2	knowledge	Corynebacterium	Lecture are delivered using the blackboard and modern display devices with interactive student participation	Oral exam with surprise written exam

12. Infrastructure	
Required Readings:	References:
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites:
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates:

13.	
Prerequisites	
Minimum Number of Students	30
Maximum Number of Students	60



Name of the Instructor:
Dr. Shaimaa Mohammed Ali
Email:shimaa@alzahu.edu.iq

Review the performance of the higher education institution.

((Review of the academic program))

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

1. Educational Institution: Al- Zahrawi University	
2. Course Name: Practical Histology	
3. Course Code: MLT32204	
4. Semester / Second Semester : 2025/2026	
5. Description Preparation Date:2025-2026	
6. Available Attendance Forms: Daily attendance	
7. Number of Credit Hours (Total) / Number of Units 2 Hours/week	
8. Course administrator's name (mention all, if more than one name)	
Me: Mohammed Sadoon Hassan Email: Mohamed.sadoon@alzahu.edu.iq	
Course Objective .9	
Course Objectives	1. Understand Cell & Tissue Structure-Function Gain theoretical knowledge of human cells and tissues, identify their types and components, and understand their physiological roles. 2. Classify & Describe Human Tissues Classify main tissue types (epithelial, connective, muscular, nervous) and relate their structure to function and location. 3. Correlate Histology with Organ Function & Pathology Recognize organ-specific histological features, link them to physiological roles, and interpret tissue changes in disease. 4. Apply Scientific Terminology & Lab Techniques Use accurate histological terminology and understand basic slide preparation steps in medical labs.

	5. Integrate with Medical Sciences & Develop Learning Skills Connect histology with anatomy, physiology, and biochemistry, and foster self-learning using atlases and digital tools. 6. Prepare for Advanced Study Build a solid foundation for future specialization in histopathology and diagnostic practice.
10. Teaching and Learning Strategies	
Strategy	A. Knowledge and Understanding: By the end of this course, the student will be able to: • Understand the fundamental principles of histology, including the microscopic structure of the cell and the functions of its components. • Distinguish the four main types of human tissues—epithelial, connective, muscular, and nervous—and recognize their anatomical and functional characteristics. • Interpret the relationship between tissue structure and physiological function, and understand its impact on organ performance. • Identify the histological characteristics of various organs and relate them to the overall structure of the human body. • Differentiate between normal and abnormal tissues as a foundation for the future study of histopathology. B. Subject-Specific Skills : Cognitive and Applied Knowledge Skills By the end of the course, the student will be able to: • Analyze histological images and accurately identify tissue types and their components. • Apply theoretical concepts to clinical or laboratory examples to understand potential histological changes associated with certain diseases. • Classify human tissues based on morphological and functional characteristics using a clear scientific methodology. • Integrate acquired knowledge in histology with related sciences such as anatomy and physiology to develop a comprehensive understanding of structure and function. • Compare tissue characteristics across different developmental stages or in specific pathological conditions (at an introductory level). Teaching and Learning Methods: To Promote Knowledge and Understanding • Interactive Theoretical Lectures: Delivering core concepts using audiovisual aids (PowerPoint slides, videos, and digital atlases). • Brainstorming and Group Discussions: Stimulating critical thinking and encouraging students to participate

	in interpreting functions based on structural features. • Analysis of Static and Dynamic Histological Images: Utilizing display screens to examine tissue structures. • Use of Histology Atlases (Printed or Digital): Training students in microscopic reading and identification of tissue components. • Theoretical Assignments and In-Class Activities: Applying theoretical knowledge and monitoring students' understanding throughout the semester. • Guided Self-Learning: Encouraging students to use academic electronic resources and stay updated with recent developments in histology.
	C. Assessment Methods 1. Theoretical Examinations: To assess students' understanding of core concepts and fundamental knowledge. 2. Visual-Based Quizzes: Require students to identify tissues through microscopic images. 3. Continuous Assessment: Includes assignments, in-class activities, attendance, and participation. 4. Short Reports or Mini-Projects: Students select a histological topic and research it using reliable sources, assessing their research and presentation skills. 5. Homework, Projects, and Reports: Used to reinforce understanding and evaluate applied knowledge. 6. Self and Peer Assessment: Encourages students to reflect on their own performance and Enhances collaborative learning and group engagement. 7. Discussion Sessions, Presentations, and Oral Examinations: To evaluate comprehension, communication, and critical thinking skills. 8. Written Theoretical Exams (Midterm and Final): Include essay questions, multiple-choice items, and definitions to assess understanding and analytical ability.
C. Thinking Skills	C. Thinking Skills 1. Interactive Dialogue: Encouraging critical thinking through guided discussions between the student and the instructor. 2. Weekly Report Preparation: Developing analytical and reflective thinking through regular written reports.

	3. Results Discussion: Engaging in the interpretation and analysis of outcomes to enhance problem-solving skills. 4. Exploratory Thinking: Promoting inquiry-based learning and independent exploration of concepts.
D. General and Transferable Skills	D. General and Transferable Skills : By learning these skills , the students will be able to : • Communicate histological concepts effectively in written and oral forms. • Collaborate successfully in team-based academic activities. • Apply problem-solving skills to analyze histological cases. • Manage time efficiently to meet academic requirements. • Use modern learning resources and technologies to enhance understanding. • Engage in self-directed learning for continuous professional growth.

11. Course Structure

1	2	The Knowledge	Circulatory system	Using the whiteboard and screen	Daily exam and oral questions
2-3	4	The Knowledge	Lymphoid system- Lymphatic vessels- Lymph Lymphoid organs	Using the whiteboard and screen	Daily exam and oral questions
4	2	The Knowledge	Respiratory system	Using the whiteboard and screen	Daily exam and oral questions
Monthly exam					
5-6	4	The Knowledge	Digestive system/ Part one- Oral cavity Digestive system/ Part two- Gastrointestinal tracts	Using the whiteboard and screen	Daily exam and oral questions
7	2		Digestive system/ Part three- Accessory Glands	Using the whiteboard and screen	Daily exam and oral questions

8-9	4	The Knowledge	Urinary system	Using the whiteboard and screen	Daily exam and oral questions
10-11	4	The Knowledge	Endocrine system	Using the whiteboard and screen	Daily exam and oral questions
12	2	The Knowledge	Male reproductive system	Using the whiteboard and screen	Daily exam and oral questions
13	2	The Knowledge	Female reproductive system	Using the whiteboard and screen	Daily exam and oral questions
14	2	The Knowledge	Sense organ	Using the whiteboard and screen	Daily exam and oral questions
15	2	The Knowledge	The integumentary system- Skin	Using the whiteboard and screen	Daily exam and oral questions
			Mid- term exam		

12. Course Evaluation

- 5 marks are calculated on reports
- 5 points are calculated on daily exams
- 5 degrees are calculated on the daily preparation
- And the rest of the grade is for the monthly exams

13. Learning and Teaching Resources

Required textbooks (curricular books, if any)	• Human Histology Books
Main references (sources)	• Curriculum scheduled within the sectoral committees
Recommended books and references (scientific journals, reports...)	• <i>Wheater's Functional Histology</i> • <i>Stevens & Lowe's Human Histology</i> • <i>Inderbir Singh's Textbook of human histology; last edition.</i> • <i>Others.</i>
Electronic References, Websites	• ncbi, google scholar, research gate

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.14	
Prerequisites	
Minimum Number of Students	
Maximum Number of Students	

A handwritten signature in black ink, appearing to be 'moh', is written over a single horizontal line. The signature is slightly slanted to the right.

أستاذ المادة: محمد سعدون حسن

نموذج وصف المقرر

Review the performance of the higher education institution
((review of the academic program))

وصف المقرر

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

1. Educational Institution	Al-Zahrawi University College - Ministry of Higher Education and Scientific Research
2. University Department / Center	Medical Laboratory Techniques
3. Course Name / Code	Theoretical Diagnostic Microbiology MLT344102
4. Programs in which it is included	
5. Available Forms of Attendance	Live attendance in the classroom
6. Semester / Year	First and second semesters of the academic year 2024-2025
7. Total Number of Study Hours	Sixty hours for both semesters
8. Date of preparing this description	2024/10/ 1
9. Course Objectives: This course includes a description of the subject, its purpose, and the philosophy of teaching. This course aims to study the principles of diagnostic microbiology and the importance of diagnosing the most important causes of human disease. Correct diagnosis is key to identifying the type of infection the patient has and, consequently, providing appropriate treatment.	

1. Learning Outcomes, Teaching and Learning Methods, and Evaluation

A. Knowledge and Understanding

- 1- Collaborative Concept Planning Instructional Strategy**
- 2- Brainstorming Instructional Strategy**
- 3- Notes Series Instructional Strategy**
- 4- Presentation, Training, Discussion, Research, and Reports**

B. Subject-Specific Skills

Teaching and Learning Methods

C. Evaluation Methods

D. Thinking Skills

Teaching and Learning Methods

Evaluation Methods

e. General and Transferable Skills

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11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2	knowledge	purpose and philosophy Manifestations of Infection	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
2	2	knowledge	Laboratory safety	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
3	2	knowledge	Selection, collection, and transport of specimens for microbiological examination	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
4	2	knowledge	Selection, collection, and transport of specimens for microbiological examination	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
5	2	knowledge	Selection, collection, and transport of specimens for microbiological examination	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
6	2	knowledge	Cultivation and Isolation of Viable Pathogen Laboratory media	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
7	2	knowledge	Microbiological methods for identification of microorganisms	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
8	2	knowledge	Microbiological methods for identification of microorganisms	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports

9	2	knowledge	Microbiological methods for identification of microorganisms	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
10	2	knowledge	non-traditional methods for identification of pathogens or them :products include	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
11	2	knowledge	Antibiotic susceptibility tests	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
12	2	knowledge	Methods for identification of etiological agents of infectious disease	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
13	2	knowledge	Methods for identification of etiological agents of infectious disease	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
14	2	knowledge	Diagnosis by organ system Blood stream infections	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
15	2	knowledge	Diagnosis by organ system Blood stream infections	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
16	2	knowledge	Meningitis and other infections of the Central Nervous System (CNS)	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
17		knowledge	Meningitis and other infections of the Central Nervous System (CNS)	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
18		knowledge	Diagnosis of bacterial respiratory tract infections	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports

19		knowledge	Diagnosis of bacterial respiratory tract infections	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
20		knowledge	Infections of the Urinary Tract	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
21		knowledge	Infections of the Urinary Tract	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
22		knowledge	Genital tract infections	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
23		knowledge	Bacterial Infections of the Gastrointestinal (GI) Tract (Gastroenteritis)	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
24		knowledge	Bacterial Infections of the Gastrointestinal (GI) Tract (Gastroenteritis)	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
25		knowledge	Bacterial infections of eyes, ears, & sinuses	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
26		knowledge	Skin, Soft tissue and wound infection	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
27		knowledge	Normally Sterile Body Fluids, Bone and Bone Marrow, and Solid Tissues	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
28		knowledge	Laboratory Methods for diagnosis of Parasitic Infections	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports

29		knowledge	Lab Methods in basic Mycology	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports
30		knowledge	Lab Methods in basic Virology	Delivering the lecture through the blackboard and modern display methods with interactive student participation	Oral exam with surprise written exams and reports

12. Infrastructure	
Required Readings:	References: 1. Connie R. Mahon, Donald C. Lehman (2019): Textbook of Diagnostic Microbiology, Sixth Edition. 2. Bailey & Scott's (2017): Diagnostic microbiology, fourteenth edition
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites:
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates:

13.	
Prerequisites	
Minimum Number of Students	
Maximum Number of Students	

Name of the Instructor: Prof. Dr. Najeh Hashem Kadhum

Review the performance of the higher education institution.

((Review of the academic program))

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

1. Educational Institution:

College of health& medical techniques

Department of medical laboratory techniques /Al- Zahrawi University

2. Course Name: Stem cells & Embryology

3. Course Code: MLT34209

4. Semester / Second Semester : 2025/2026

5. Description Preparation Date:2025-2026

6. Available Attendance Forms: Daily attendance

**7. Number of Credit Hours (Total) / Number of Units 2 Hours/week
(Total) 30**

8. Course administrator's name

Me: Dr. Hanan Mohsen Ali

Email: hananmuhsen71@gmail.com

Course Objective .9

Course Objectives

General Objective: To understand stem cells—including their types, characteristics, and medical roles—as well as embryology, the differentiation of germ cells into male or female lineages, stages of embryonic development, and the prenatal diagnosis of fetal abnormalities.

Specific Objectives: By the end of the semester, the student will be able to:

- 1- Identify the characteristics of stem cells and list their origins.
- 2- Understand stem cell growth and differentiation, and distinguish between the various applications of stem cells.
- 3- Understand the development of male and female gametes and their differentiation into male or female lineages.
- 4- Study the development of the ovum, the process of fertilization, and the weekly stages of embryonic growth.
- 5- Learn how to diagnose congenital abnormalities prenatally.

10. Course Structure

Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1,2,3	6	The Knowledge	Introduction , what are stem cell -What are the Properties of Stem Cells That Make Them Different from Other Cells? -Totipotency and Pluripotency, and Embryonic Stem Cells -Multipotency, Unipotency, and Adult Stem Cells - Cell Division and Aging: The Role of Telomerase -The Relationship Between Cell Division and Differentiation: Epigenetics -Epigenetics in Stem Cells	Using the whiteboard and screen	Daily exam and oral questions
4,5	4	The Knowledge	Characterizing of stem cells , Origins and Types of Stem Cells: What's in a Name? -Pluripotent Stem Cells – Multipotent Stem Cells	Using the whiteboard and screen	Daily exam and oral questions

			Genetic Modification and the Labeling of Cell Lineages		
6	2	The Knowledge	Cell Differentiation and Growth Stem Cells in the Body	Using the whiteboard and screen	Daily exam and oral questions
Monthly exam					
7	2	The Knowledge	Regenerative Medicine: Clinical Applications of Stem Cells -Therapeutic Cell Transplantation -Number of Cells Needed for Cell Transplantation -Why Some Diseases will be Treatable with Stem Cells in the Future and Others Not -The Best Stem Cells for Transplantation -Risks Associated with a Stem Cell Transplantation -Stem Cells Rejected After Transplantation	Using the whiteboard and screen	Daily exam and oral questions
8	2	The Knowledge	General Embryology	Using the whiteboard and screen	Daily exam and oral questions
9	2	The Knowledge	Gametogenesis: conversion of germ cells into male and female gametes	Using the whiteboard and screen	Daily exam and oral questions
10	2	The Knowledge	First week of development: ovulation to implantation	Using the whiteboard and screen	Daily exam and oral questions
11	2	The Knowledge	Second week of development: Bilaminar germ disc	Using the whiteboard and screen	Daily exam and oral questions

12	2	The Knowledge	Third week of development: Trilaminar germ disc	Using the whiteboard and screen	Daily exam and oral questions
13	2	The Knowledge	Third to eight week: The Embryonic period	Using the whiteboard and screen	Daily exam and oral questions
14	2	The Knowledge	Third month to birth: The fetus and placenta	Using the whiteboard and screen	Daily exam and oral questions
15	2	The Knowledge	Birth defects and prenatal diagnosis	Using the whiteboard and screen	Daily exam and oral questions
15			Mid- term exam		

11. Course Evaluation

- 5 marks are calculated on reports
- 5 points are calculated on daily exams
- 5 degrees are calculated on the daily preparation
- And the rest of the grade is for the monthly exams

12. Learning and Teaching Resources

Main references (sources)	
Recommended books and references (scientific journals, reports...)	• 1. <i>NIH Stem Cell Basics (National Institutes of Health)</i> • 2. <i>Langman's Medical Embryology (T.W. Sadler)</i> • 3. <i>Developmental Biology (by Scott Gilbert and Michael J.F. Barresi)</i>
Electronic References, Websites	• ncbi, google scholar, research gate

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Prerequisites	
Minimum Number of Students	
Maximum Number of Students	

اسم التدريسي : م.د. حنان محسن علي

Email: hananmuhsen71@gmail.com

Review the performance of the higher education institution.

((Review of the academic program))

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

1. Educational Institution:

College of health& medical techniques

Department of medical laboratory techniques /Al- Zahrawi University

2. Course Name: Pathology

3. Course Code:

4. Semester / First Semester : 2025/2026

5. Description Preparation Date:2025-2026

6. Available Attendance Forms: Daily attendance

**7. Number of Credit Hours (Total) / Number of Units 2 Hours/week
(Total) 30**

8. Course administrator's name

Me: Dr. Hanan Mohsen Ali

Email: hananmuhsen71@gmail.com

Course Objective .9

Course Objectives

General Objective:: To provide the student with a comprehensive and up-to-date understanding of pathology.

Specific Goal: To establish a solid knowledge base in pathology and modern medical techniques, enabling the student to keep pace with the medical community they will integrate into after graduation in hospital settings.

10. Course Structure

Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2	The Knowledge	Lung (atelectasias, acute lung injury)	Using the whiteboard and screen	Daily exam and oral questions
2	4	The Knowledge	Lung (chronic bronchitis pulmonary embolism)	Using the whiteboard and screen	Daily exam and oral questions
3	2	The Knowledge	Lung tumors	Using the whiteboard and screen	Daily exam and oral questions
4	2	The Knowledge	Kidney (glomerular disease) Kidney (nephrotic syndrome, [gA nephropathy (Berger disease)	Using the whiteboard and screen	Daily exam and oral questions
5	2	The Knowledge	Kidney tumors	Using the whiteboard and screen	Daily exam and oral questions
6	2	The Knowledge	Cancer of the oral cavity and tongue	Using the whiteboard and screen	Daily exam and oral questions
Monthly exam					
7	2	The Knowledge	Esophagus (lacivation, varices, esophageal carcinoma)	Using the whiteboard and screen	Daily exam and oral questions
8	2	The Knowledge	Stomach (gastritis, ulcer, carcinoma)	Using the whiteboard and screen	Daily exam and oral questions

9	2	The Knowledge	Large intestines (hemorrhoids, malabsorption syndrome)	Using the whiteboard and screen	Daily exam and oral questions
10	2	The Knowledge	Crohn disease	Using the whiteboard and screen	Daily exam and oral questions
11	2	The Knowledge	Large intestines tumors	Using the whiteboard and screen	Daily exam and oral questions
12	2	The Knowledge	Liver (hepatic infection, failure, cirrhosis)	Using the whiteboard and screen	Daily exam and oral questions
13	2	The Knowledge	Hepatic tumors	Using the whiteboard and screen	Daily exam and oral questions
14	2	The Knowledge	Gall bladder (cholecystitis, tumors)	Using the whiteboard and screen	Daily exam and oral questions
15			Mid- term exam		

11. Course Evaluation

- 5 marks are calculated on reports
- 5 points are calculated on daily exams
- 5 degrees are calculated on the daily preparation
- And the rest of the grade is for the monthly exams

12. Learning and Teaching Resources

Main references (sources)

Recommended books and references (scientific journals, reports...)

- *Pathologic basis of diseases, 8th edition, 2012*
- *Junqueira's basic histology, 15th edition, 2018*
- *Pathology illustrated, 17th edition, 2010*
- *Robbins, Stanley (2010). Robbins and Cotran pathologic basis of disease (9th ed.). Philadelphia: Saunders/Elsevier.*

Electronic References, Websites

- ncbi, google scholar, research gate

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Prerequisites

Minimum Number of Students

Maximum Number of Students

اسم التدريسي : م.د. حنان محسن علي

Email: hananmuhsen71@gmail.com

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

Academic Program Description
Al-Zahrawi University / College of Health and
Medical Technologies
Department of Medical Laboratory Techniques

2026-2025

Vision .1

Educational excellence in the field of allied medical sciences through providing academically distinguished programs at the local and regional levels, preparing qualified cadres capable of improving the .level of health behavior in society, and enriching scientific research in the field of medical laboratories

Program Mission .2

Supplying the labor market with graduates of the department who possess competence and are equipped with professional ethics, scientific and practical knowledge, and skills, and raising the level of the .profession locally and in the Arab world

Program Objectives .3

- .1 Prepare graduates to practice the medical laboratory analysis profession with high competence
- .2 Provide training sites that enable students to gain experience in the field of medical laboratory analysis
- .3 Develop a spirit of scientific integrity, accuracy, and honesty in conducting various laboratory tests
- .4 Supply the local market with specialized competencies

Program Accreditation .4

.The program has no accreditation

External Influences .5

.There is no sponsor for the program

Program Structure .6

*Remarks	Percentage	Credit Hours	Number of Courses	Program Structure
Core	%2.6	5	2	Institution Requirements
Core	%8.9	17	7	College Requirements
Core	%88.5	170	35	Department Requirements
/	/	/	/	Summer Training
/	/	/	/	Other

Program Description					
Units	Credit Hours		Course Name	Course Code	Academic Stage
	Practical / Applied	Theoretical			
4	5	2	General Chemistry 1	MLT31101	First Stage First Semester
2	0	2	Medical Terminology	MLT31102	
4	5	2	Human Biology 1	MLT31103	
4	4	2	Laboratory Equipment 1	MLT31104	
2	0	2	Professional Conduct	MLT31105	
2	0	2	Human Rights and Democracy	MLT31106	
4	5	2	General Chemistry 2	MLT31201	First Stage Second Semester
4	5	2	Anatomy	MLT31207	
4	5	2	Human Biology 2	MLT31203	
4	4	2	Laboratory Equipment 2	MLT31204	
2	2	1	Computer Principles	MLT31208	
2	0	2	Arabic Language	MLT31209	
4	4	2	Medical Bacteriology 1	MLT32101	Second Stage First Semester
4	4	2	Biochemistry 1	MLT32102	
4	4	2	Human Physiology 1	MLT32103	
4	4	2	Histology 1	MLT32104	
2	2	1	Descriptive Biostatistics	MLT32105	
4	4	2	Medical Parasitology 1	MLT32106	
2	0	2	Crimes of the Ba'ath Regime in Iraq	MLT32107	
2	2	1	Computer Principles	MLT32108	
4	4	2	Medical Bacteriology 2	MLT32201	Second Stage Second Semester
4	4	2	Biochemistry 2	MLT32202	
4	4	2	Human Physiology 2	MLT32203	
4	4	2	Histology 2	MLT32204	
4	4	2	Medical Parasitology and Insects 2	MLT32206	
4	4	2	Molecular Biology	MLT3209	
2	0	2	Arabic Language	MLT3210	

Units	Credit Hours		Course Name	Course Code	Academic Stage
	Practical / Applied	Theoretical			
3	2	2	Histopathology 1	MLT33101	Third Stage First Semester
3	2	2	Hematology 1	MLT33102	
4	4	2	Medical Virology	MLT33103	
4	4	2	Clinical Endocrinology	MLT33104	
4	4	2	Medical Genetics 1	MLT33105	
4	4	2	Immunology 1	MLT33106	
3	4	2	Advanced Laboratory Techniques	MLT33107	
3	2	2	Histopathology 2	MLT33201	Third Stage Second Semester
3	2	2	Hematology 2	MLT33202	
4	4	2	Medical Mycology	MLT33208	
4	4	2	Metabolic Disorders	MLT33209	
4	4	2	Medical Genetics 2	MLT33205	
4	4	2	Immunology 2	MLT33206	
2	3	1	Analytical Biostatistics	MLT33210	
4	4	2	Clinical Immunology 1	MLT34101	Fourth Stage First Semester
4	4	2	Diagnostic Bacteriology 1	MLT34102	
4	4	2	Clinical Enzymology	MLT34103	
4	4	2	Diagnostic Parasitology 1	MLT34104	
4	4	2	Blood Transfusion	MLT34105	
4	4	2	Pathology	MLT34106	
2	0	2	Professional Ethics	MLT34107	
1	0	1	Research Methods	MLT34108	
4	4	2	Clinical Immunology 2	MLT34201	Fourth Stage Second Semester
4	4	2	Diagnostic Bacteriology 2	MLT34202	
2	0	2	Stem Cell Biology	MLT34209	

			and Embryology		
4	4	2	Diagnostic Parasitology 2	MLT34204	
4	4	2	Clinical Chemistry	MLT34210	
4	4	2	Antimicrobial Resistance and Infection Control	MLT34211	
1	0	1	Laboratory Management	MLT34212	
4	6	0	Graduation Project	MLT34213	

Expected Learning Outcomes of the Program .1

Knowledge	
Learning Outcome 1 Assessment :Methods of Assessing Knowledge and Understanding .Weekly reports on practical experiments -1 .Periodic tests for theoretical subjects -2 .Theoretical and practical semester examinations -3 .Theoretical and practical final examinations -4	Learning Outcome 1 :Knowledge and Understanding Teach the student topics related to the -1 .specialization of medical laboratories Prepare and perform the various -2 .methods used in medical laboratories Train the student on how to obtain -3 specimens from patients/clients for .laboratory use Interpret the results obtained from the -4 analysis and determine their consistency .with the diagnosis of the case
Skills	
Learning Outcome 2 Assessment :Methods of Assessing Thinking Skills .Use logic to evaluate the answer -1 .Identify errors to evaluate the answer -2 Evaluate the effectiveness of the methods adopted to solve the -3 .problem .Support opinions with evidence -4	Learning Outcome 2 :Thinking Skills Use brainstorming through direct -1 .questions The student should participate in -2 all activities, discussions, and .dialogues during lectures
Learning Outcome 3 Assessment :Methods of Assessing Practical Skills Practical skills are assessed according to individual differences among .students and by the methods specific to each practical subject	Learning Outcome 3 :Professional and Practical Skills The student should master work -1 inside the laboratory, know how to handle the available chemicals, and .use laboratory tools The student should master the -2 .theoretical scientific material
Values	
Learning Outcome 4 Assessment The student participates in community activities outside the college -1 .campus The student visits community institutions and learns about the -2 .conditions of those within them	Learning Outcome 4 The student should master the -1 .fundamentals of civil society The student should be an active -2 .member of society
Learning Outcome 5 Assessment	Learning Outcome 5

Appropriate selection of research project titles, with novelty and innovation in their presentation -1
Research projects should successfully pass plagiarism/similarity checks -2

The student should understand the formulation of research projects -1
The student should know research writing ethics and academic integrity -2

Teaching and Learning Strategies .2

- Lecture • •
- Dialogue and discussion •
- Cooperative learning (group division) •
- Brainstorming •
- Reciprocal teaching •
- Use of presentation screens and audio equipment •
- Writing research papers and reports in English •
- Speaking English in class and during participation •
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-
-

Assessment Methods .3

- Direct questioning and answering during the lecture • •
- Expected and surprise daily examinations •
- Evaluation of research papers and their writing in terms of style, expression, and spelling •
- Asking questions to measure listening and attention in English •
- Student participation in evaluating the performance of their peers •
- Practical assessment examinations for listening, speaking, and reading •
- Monthly and semester examinations •
- Theoretical final examinations •
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Professional Development

Orientation of New Faculty Members

- .Work on diversifying classroom management and lecture delivery methods • •
- New faculty members may be visited by the Head of Department and senior faculty members • •
- .during lectures
- .Conduct personal interviews to determine the instructor's competence and teaching skills •
- Publish research in international journals with impact factors, author publications, and •
- .participate in workshops and conferences
-
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Professional Development of Faculty Members

- .The academic program is reviewed periodically to identify and address its gaps •
- .Annual evaluation of each unit by the Head of Department or Department Coordinator •
- .Periodic reviews of the academic program by faculty members •
- Establishment of an external advisory board for the department including representatives of •
- .students and beneficiaries of the course
- .Periodic evaluation of faculty members by the Head of Department •
- .Student evaluation of faculty members through electronic surveys •
- .Self-evaluation by faculty members •
- .Student evaluation of an academic stage through electronic surveys •
- Coordination with the Quality Unit in the college and university to monitor implementation of the •
- .academic program in the department

Personal Development Planning .7

- .Identify the social determinants of health to reduce disparities and inequities in access to quality care .1
- Self-awareness: Examine personal knowledge, skills, abilities, beliefs, biases, motivations, and emotions .2
- .that may promote or limit personal and professional growth and reflection
- Professionalism: Demonstrate behaviors and values consistent with the trust placed by patients, other .3
- .healthcare providers, and society in the profession
- Learner: Develop, integrate, and apply knowledge from foundational sciences (such as dentistry and the .4
- social, behavioral, administrative, and clinical sciences) to evaluate scientific literature, explain
- pharmacological action, solve therapeutic problems, and advance population and patient-centered

.healthcare

Design prevention, intervention, and education strategies for individuals and communities to manage .5

.chronic diseases and improve health

Educate all audiences by identifying the most effective and sustainable methods of communicating .6

.information and assessing understanding

Admission Criteria .8

The general average for central admission, within the applicable limits and according to the directives of .1

.the Ministry of Higher Education and Scientific Research

Personal interviews with applicants for admission, recording speech, behavioral, or personal .2

.deficiencies

Main Sources of Information about the Program .9

.Committee of Deans of Colleges of Health and Medical Technologies .1

.The college website .2

.General books and references related to the department .3

Intended Learning Outcomes

:A. Knowledge and Understanding

- Describe the scientific basis of the Department of Medical Laboratory Techniques and the relevant biomedical and behavioral sciences that form the basis for understanding human growth, development, and health .1**
- Explain the structure and function of the human body and their relationship to various laboratory examinations .2**
- Identify the rules and ethics governing the practice of the medical laboratory techniques profession .3**
- Describe the various clinical and laboratory procedures and special examinations practiced in the Department of Medical Laboratory Techniques .4**
- Demonstrate an understanding of the psychological, cultural, and social factors that affect disease management and related laboratory analyses .5**
- Explain the principles of evidence-based medical laboratory analysis and its relationship to scientific research .6**

:B. Intellectual / Cognitive Skills

- Integrate theoretical basic sciences in biomedical sciences, behavioral sciences, and laboratory technology sciences with clinical signs and symptoms to understand and appropriately manage disease .1**
- Apply critical thinking and evidence-based problem solving when providing patient care .2**
- Prioritize patients' therapeutic needs and develop an appropriate treatment plan .3**
- Build preventive strategies at different levels according to the needs of the .4**

.individual and the target community

**Select appropriate materials for medical laboratories according to clinical .5
.cases**

:C. Professional and Practical Skills

**Obtain and record a comprehensive history, conduct an appropriate .1
physical examination, and perform various examinations to reach the correct
.diagnosis and treatment**

**Detect pathological conditions related to the practice of the medical .2
.laboratory analysis profession**

**Apply infection control and radiation protection according to international .3
.standards**

**Apply preventive measures for different age groups, taking into account .4
the different needs of young children, adolescents, adults, people with
.special needs, and older adults**

**Plan when, how, and where to refer a patient to a specialist based on .5
.clinical assessment**

.Assess the risks of medical emergency situations .6

.Apply comprehensive clinical practices .7

:D. General / Transferable Skills

**Commit to continuous learning, self-development, lifelong learning, and .1
.staying up to date with the latest developments in professional practice**

**Use advanced information and communication technologies to enrich and .2
.diversify professional experience**

Demonstrate leadership and teamwork skills with colleagues and the .3

.medical laboratory technical team to provide effective healthcare

.Manage time, prioritize treatment, and work within specified time limits .4

.Maintain complete and accurate test result records (manual and electronic) .5

Demonstrate appropriate behaviors at the personal and professional levels .6

.to maintain an excellent standing for the profession in society

Identify patients' expectations, wishes, and attitudes when considering .7

.treatment planning

.Analyze and solve problems and deal with uncertainty .8

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Main Sources of Information about the Program .4

Through the College Quality Unit and the University Quality Unit, which adhere to quality requirements and work to improve scientific, cognitive, skills, and research levels in accordance with the requirements of the Ministry of Higher Education and Scientific Research, in pursuit of international quality standards .and enhancement of academic program efficiency

Program Development Plan .5

- .Encourage students to make use of medical books
- Develop speaking, translation, and reading skills by benefiting from websites and
- .other contemporary means
- Encourage students to become familiar with the most important medical books,
- .particularly those related to medical laboratory analysis

Program Skills Mapping																
Required Program Learning Outcomes												No n- Cor e	Cor e	Course Name	Course Code	Year
Values				Skills				Knowledge								
C 4	C 3	C 2	C 1	B 4	B 3	B 2	B 1	A 4	A 3	A 2	A 1					
													/	General Chemistry 1	MLT311 01	First Stag e
													/	Medical Terminolo gy	MLT311 02	
													/	Human Biology 1	MLT311 03	
													/	Laborator y Equipmen t 1	MLT311 04	
													/	Professio nal Conduct	MLT311 05	
												/		Human Rights and Democracy	MLT311 06	
													/	General Chemistry 2	MLT312 01	
													/	Anatomy	MLT312 07	
													/	Human Biology 2	MLT312 03	
													/	Laborator y Equipmen t 2	MLT312 04	
												/		Computer Principles	MLT312 08	
												/		Arabic Language	MLT312 09	

Program Skills Mapping																	
Required Program Learning Outcomes												Non-Core	Core	Course Name	Course Code	Year	
Values				Skills				Knowledge									
C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1						
														/	Medical Bacteriology 1	MLT32101	Second Stage
														/	Biochemistry 1	MLT32102	
														/	Human Physiology 1	MLT32103	
														/	Histology 1	MLT32104	
														/	Descriptive Biostatistics	MLT32105	
														/	Medical Parasitology 1	MLT32106	
													/		Crimes of the Ba'ath Regime in Iraq	MLT32107	
													/		Computer Principle	MLT32108	

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														/	Medical Bacteriology 2	MLT32201
														/	Biochemistry 2	MLT32202
														/	Human Physiology 2	MLT32203
														/	Histology 2	MLT32204
														/	Medical Parasitology and Insects 2	MLT32206
														/	Molecular Biology	MLT3209
												/			Arabic Language	MLT3210

Program Skills Mapping																
Required Program Learning Outcomes												No n-	Cor 6or	Course Name	Course Code	Year Year
Values				Skills				Knowledge								
C 4	C 3	C 2	C 1	B 4	B 3	B 2	B 1	A 4	A 3	A 2	A 1	Cor e	e	Name	Code	Thir d Sta ge
													/	Histopathol ogy 1	MLT33 101	
													/	Hematology 1	MLT33 102	
													/	Medical Virology	MLT33 103	
													/	Clinical Endocrinol ogy	MLT33 104	
													/	Medical Genetics 1	MLT33 105	
													/	Immunology 1	MLT33 106	
													/	Advanced Laboratory Techniques	MLT33 107	
													/	Histopathol ogy 2	MLT33 201	
													/	Hematology 2	MLT33 202	
													/	Medical Mycology	MLT33 208	
													/	Metabolic Disorders	MLT33 209	
													/	Medical Genetics 2	MLT33 205	
													/	Immunolog y 2	MLT33 206	
													/	Analytical Biostatistic s	MLT33 210	

C 4	C 3	C 2	C 1	B 4	B 3	B 2	B 1	A 4	A 3	A 2	A 1	Cor e				
													/	Clinical Immunology 1	MLT34101	Fourth Stage
													/	Diagnostic Bacteriology 1	MLT34102	
													/	Clinical Enzymology	MLT34103	
													/	Diagnostic Parasitology 1	MLT34104	
													/	Blood Transfusion	MLT34105	
													/	Pathology	MLT34106	
													/	Professional Ethics	MLT34107	
													/	Research Methods	MLT34108	
													/	Clinical Immunology 2	MLT34201	
													/	Diagnostic Bacteriology 2	MLT34202	
													/	Stem Cell Biology and Embryology	MLT34209	
													/	Diagnostic Parasitology 2	MLT34204	
													/	Clinical Chemistry	MLT34210	
													/	Antimicrobial Resistance and Infection Control	MLT34211	
													/	Laboratory	MLT34212	

															Managem ent		
														/	Graduatio n Project	MLT342 13	

Academic Program Description Form

University Name: Al-Zahrawi University

College/Institute: College of Health and Medical Technologies

Scientific Department: Department of Medical Laboratory Technologies

Name of the Academic or Vocational Program: Bachelor's Degree in
Medical Laboratory Technologies

Final Certificate Name: Bachelor's Degree in
Medical Laboratory Technologies

Study System: Semester System

Date of Description Preparation: 20/09/2025

Date of File Completion: 20/09/2025

Scientific Assistant's Name:

Signature:

Date:

Department Head's Name: 

Signature: Dr. Saïdporan

Date: 20/09/2025

File Reviewed by:

College Quality Assurance and Academic
Performance Division

Date: 20/9/20

Signature: 