

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

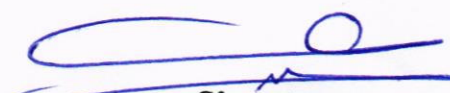
Academic Program Specification Form For The Academic Year 2025-2026

University: Al-Ayen Iraqi University
College: Health and Medical Technologies
Medical Laboratory Techniques
Date of Form Completion: 10 / 10 /2025

Signature: 
Head of department: Dr. Harith Abdul Sahib
Date: 1 / 12 /2025

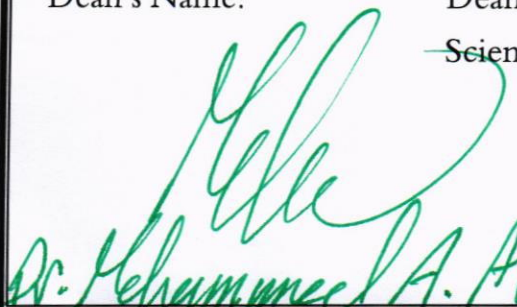
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Quality Assurance And University Performance Manager
Date : / /2025

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Dean's Name:


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Dean assistant for
Scientific Affairs


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College Quality Assurance and
University Performance Manager


Dr. Mohammed A. Al-Hakim (1)
1.12.2025

Description of Academic Program for the Department of Medical Laboratory Technology

This description of the academic program for the Department of Medical Laboratory Technology provides a concise summary of the program's key features and the learning outcomes expected of the student, demonstrating whether they have made the most of the available opportunities. It is accompanied by a description of each subject within the program.

Program study Vision

The Department of Medical Laboratory Technology is committed to achieving scientific leadership and advancing and excelling in practical performance in the field of laboratory education. This is achieved by building and graduating a human resource capable of working in medical laboratories and keeping pace with the requirements of the local labor market, according to performance standards characterized by quality and efficiency. The Department is committed to professional ethics and morals from an academic and practical perspective. It also contributes to the development of scientific research in various fields of laboratory testing, serving health safety and security.

Academic Program information:

University	Al-Ayen Iraqi University
Department/Faculty	Faculty of Health and Medical Techniques
Academic Program	Medical Laboratory Techniques
Academic Degree	Bachelor's Degree in Medical Laboratory Techniques
Educational system	Semesters for the fourth study stages
Accreditation Program	Accredited program is prepared by the sectorial committee at the Ministry of Higher Education and Scientific Research.
Other External Influences:	Field visits and training in hospitals, laboratories, and clinics.
Date:	10 / 10 / 2025

1- Program Strategy:

1.1- Aims of the program and program description:

The program seeks to achieve the following specific objectives:

A- Foundational Knowledge and Understanding:

A1- Objective:

- Develop a comprehensive understanding of theoretical principles underpinning medical laboratory sciences.
- Acquire knowledge in biochemistry, biology, and laboratory techniques.
- Understand the fundamentals of anatomy, human biology, and medical terminology.

A2- Teaching and Learning Methods:

- Lectures: Theoretical insights delivered by faculty.
- Practical Sessions: Hands-on laboratory experiences to reinforce theoretical concepts.
- Seminars: Interactive sessions for in-depth discussions on specific topics.
- Case Studies: Real-world scenarios to apply theoretical knowledge.
- Guest Lectures: External experts provide industry insights.

A3- Assessment Methods:

- Written Exams: Assess understanding of theoretical principles.
- Practical Assessments: Evaluate hands-on skills and application of knowledge.
- Assignments: Encourage independent exploration and research projects.

B-Practical and Technical Proficiency:**B1- Objective:**

- Acquire practical skills necessary for performing laboratory procedures and techniques with precision.
- Develop hands-on expertise in laboratory techniques, clinical biochemistry, microbiology, and molecular biology.
- Demonstrate proficiency in applying theoretical knowledge to practical scenarios.

B2- Teaching and Learning Methods:

- Problem-Solving Exercises: Structured exercises to enhance problem-solving abilities.
- Lectures: Theoretical insights delivered by faculty.
- Critical Analysis: In-depth analysis of complex scenarios.
- Group Discussions: Collaborative discussions to explore multiple perspectives.
- Research Projects: Independent research to cultivate analytical skills.

B3- Assessment Methods:

- Written Exams: Assess understanding of theoretical principles.
- Laboratory Reports: Evaluate the ability to document and communicate practical findings.
- Practical Examinations: Assess hands-on skills and technique proficiency.
- Competency Assessments: Evaluate overall proficiency and adherence to best practices.

C- Critical Thinking and Problem-Solving:

C1- Objective:

- Cultivate critical thinking and problem-solving abilities for effective decision-making in diverse laboratory contexts.
- Analyze complex scenarios in histopathology, hematology, clinical chemistry, and immunology.
- Develop skills to interpret and solve problems related to medical laboratory procedures.

C2- Teaching and Learning Methods:

- Lectures: Theoretical insights delivered by faculty.
- Case Studies: Analyze real or hypothetical scenarios to develop critical thinking skills.
- Problem-Solving Exercises: Engage in structured exercises to enhance problem-solving abilities.
- Group Discussions: Collaborative discussions to explore multiple perspectives on complex issues.

C3- Assessment Methods:

- Written Exams: Assess understanding of theoretical principles.
- Critical Analysis Papers: Assess the ability to analyze and evaluate complex information critically.
- Case Study Assessments: Evaluate problem-solving skills in the context of real-world scenarios.
- Examinations: Assess the application of critical thinking skills in a timed setting

D- Communication and Teamwork Skills:

D1- Objective:

- Develop effective communication, teamwork, and professional skills essential for success in healthcare and research environments.
- Enhance communication skills through courses in English, computer sciences, and human rights.
- Foster teamwork through collaborative projects, presentations, and workshops.

D2- Teaching and Learning Methods:

- Lectures: Theoretical insights delivered by faculty.
- Communication Exercises: Engage in activities to enhance verbal and written communication skills.
- Group Projects: Collaborative assignments to foster teamwork and shared responsibility.
- Presentations: Develop and deliver oral presentations to enhance communication skills.

D3- Assessment Methods:

- Written Exams: Assess understanding of theoretical principles.
- Oral Presentations: Evaluate the ability to communicate effectively through spoken presentations.
- Teamwork Evaluations: Assess collaborative efforts, communication, and shared responsibility.
- Reflective Essays: Encourage self-reflection on communication and teamwork experiences.

Remark: Attached with this report the program structure detailed and approved by the Medical Laboratory Technology Department and the Faculty of Health and Medical Technology.

1- Program structure:

The Medical Laboratory Technology is a Bachelor degree assigned to the student after four academic years. The detailed program is summarized as follow:

First Year						
Semester	Curriculum	Curriculum symbol	Number of hours per week			Number of credits
			Theoretical	Practical	Total	
1	General Chemistry 1	MTML1101	2	5	7	4
1	Medical terminology	MTML1102	2	-	2	2
1	Human Biology1	MTML1103	2	5	7	4
1	Laboratory instruments 1	MTML1104	2	4	6	4
1	Medical ethics	MTML1105	2	-	2	2
1	Computer applications1	MTML1106	1	2	3	2
1	Human Rights and Democracy	MTML1107	2	-	2	2
1	English	MTML1108	2	-	2	2
Total			15	16	31	22
2	General Chemistry 2	MTML1201	2	5	7	4
2	Anatomy	MTML1202	2	5	7	4
2	Human Biology2	MTML1203	2	5	7	4
2	Laboratory Instruments 2	MTML1204	2	4	6	4
2	Computer Applications 2	MTML1205	1	2	3	2
2	Arabic Language	MTML1206	2	-	2	2
Total			11	21	32	20

Second Year						
Semester	Curriculum	Curriculum symbol	Number of hours per week			Number of credits
			Theoretical	Practical	Total	
1	Medical Bacteriology 1	MTML2101	2	4	6	4
1	Biochemistry 1	MTML2102	2	4	6	4
1	Human Physiology 1	MTML2103	2	4	6	4
1	Histology 1	MTML2104	2	4	6	4
1	Descriptive Biostatics	MTML2105b	1	2	3	2
1	Medical Parasitology 1	MTML2106	2	4	6	4
1	جرائم نظام البعث في العراق	MTML2107	2	-	2	2
Total			13	22	35	24
2	Medical Bacteriology 2	MTML2201	2	4	6	4
2	Biochemistry 2	MTML2202	2	4	6	4
2	Human Physiology 2	MTML2203	2	4	6	4
2	Histology 2	MTML2204	2	4	6	4
2	Medical Parasitology 2 and Entomology	MTML2205	2	4	6	4
2	Molecular biology	MTML2206b	2	4	6	4
2	Arabic language	MTML2207	2	-	2	2
2	Computer and Artificial intelligence	MTML2208	2	4	6	2
Total			16	28	44	42

Third stage						
Semester	Curriculum	Curriculum symbol	Number of hours per week			Number of credits
			Theoretical	Practical	Total	
1	Histopathology1	MTML3101	2	2	4	3
1	Hematology1	MTML3102	2	2	4	3
1	Medical Virology	MTML3103b	2	4	6	4
1	Clinical Endocrinology	MTML3104b	2	4	6	4
1	Human Genetics1	MTML3105	2	4	6	4
1	Immunology1	MTML3106	2	4	6	4
1	Advanced Laboratory Techniques	MTML3107	2	2	4	3
1	Computer Applications1	MTML3108	1	2	3	2
Total			15	24	39	27
2	Histopathology2	MTML3201	2	2	4	3
2	Hematology2	MTML3202	2	2	4	3
2	Medical Mycology	MTML3203b	2	4	6	4
2	Metabolic disorder	MTML3104b	2	4	6	4
2	Human Genetics2	MTML3205	2	4	6	4
2	Immunology2	MTML3206	2	4	6	4
2	Analytical Biostatistics	MTML3207	1	3	4	2
2	Computer Applications2	MTML3208	1	2	3	2
Total			14	25	39	26

Fourth stage						
Semester	Curriculum	Curriculum symbol	Number of hours per week			Number of credits
			Theoretical	Practical	Total	
1	Clinical Immunology 1	MTML4101	2	4	6	4
1	Diagnostic Bacteriology 1	MTML4102	2	4	6	4
1	Clinical Enzymology	MTML4103	2	4	6	4
1	Diagnostic parasitology1	MTML4104	2	4	6	4
1	Blood Transfusion	MTML4105	2	4	6	4
1	Pathology	MTML4106	2	4	6	4
1	Professional Ethics	MTML4107	2	-	2	2
1	Research Methods	MTML4108	1	-	1	1
Total			15	24	39	27
2	Clinical Immunology 2	MTML4201	2	4	6	4
2	Diagnostic Bacteriology 2	MTML4202	2	4	6	4
2	Stem cell and Embryology	MTML4203	2	-	2	2
2	Diagnostic parasitology2	MTML4204	2	4	6	4
2	Clinical Chemistry	MTML4205	2	4	6	4
2	Antibiotic Resistance and Infection Control	MTML4206	2	4	6	4
2	Laboratory management	MTML4207	1	-	1	1
2	Graduation Project	MTML4208	-	6	6	4
Total			13	26	39	27

2- Program organization:

The curriculum serves as an educational tool to lead societal changes and prepare learners capable of facing contemporary and future challenges:

- An educational kit is prepared for each subject within the curriculum, containing detailed vocabulary, explanations, and objectives delivered with precision and timing to ensure effective teaching and learning.
- The curriculum is continuously updated to align with global standards, enhance flexibility, and accommodate advancements in the field. In addition, collaboration with departments affiliated with public colleges and universities of the same specialization plays a fundamental role in updating the curricula.
- Emphasis is placed on practical lessons, visits by academic leaders to assess teaching efficiency, and the provision of necessary educational resources and technologies.
- The department aims for a continuous improvement process, updating curricula, teaching plans, and instructional materials, and actively seeking feedback from students to enhance the educational experience.
- The department is committed to staying current with educational trends, ensuring cohesion between courses, and promoting a quality learning environment.

Mapping of Course Learning Outcomes to Program Outcomes																		
Course Learning Outcomes																		
Skills and personal development				Emotional and value goals				Program specific objectives				Cognitive goals				Specialist General Auxiliary	Curriculum	/ Year Level
D4	D3	D2	D1	C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1			
√						√					√				√	Auxiliary	General Chemistry 1	First level
			√		√						√			√		Auxiliary	Medical terminology	
	√				√					√				√		Auxiliary	Human Biology 1	
			√			√			√				√			Auxiliary	Laboratory instruments 1	
	√			√						√					√	General	Medical ethics	
			√	√				√				√				General	Computer applications	
√				√					√					√		General	Human Rights and Democracy	
√					√					√					√	General	English	
		√				√		√					√			Auxiliary	General Chemistry 2	
			√				√		√						√	Auxiliary	Anatomy	
			√				√				√		√			Auxiliary	Human Biology 2	
	√						√				√			√		Auxiliary	Laboratory Instruments 2	
		√			√				√						√	General	Computer Applications 2	
√						√				√			√			General	Arabic Language	

Mapping of Course Learning Outcomes to Program Outcomes																		
Course Learning Outcomes																		
Skills and personal development				Emotional and value goals				Program specific objectives				Cognitive goals				Specialist General Auxiliary	Curriculum	/ Year Level
D4	D3	D2	D1	C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1			
√							√		√			√				Specialist	Medical Bacteriology 1	Second level
	√			√						√					√	Auxiliary	Biochemistry 1	
√					√					√				√		Specialist	Human Physiology 1	
		√				√				√		√				Auxiliary	Histology 1	
	√					√			√				√			Auxiliary	Descriptive Biostatics	
			√	√							√	√				Specialist	Medical Parasitology 1	
		√				√		√				√				General	جرائم نظام البعث في العراق	
√					√			√				√				Specialist	Medical Bacteriology 2	
	√					√			√				√			Auxiliary	Biochemistry 2	
		√		√						√				√		Specialist	Human Physiology 2	
			√		√						√			√		Auxiliary	Histology 2	
		√				√				√					√	Specialist	Medical Parasitology 2 and Entomology	
		√			√				√			√				Specialist	Molecular biology	
			√		√						√				√	General	Arabic language	
√						√			√					√		General	Computer and Artificial intelligence	

Mapping of Course Learning Outcomes to Program Outcomes																		
Course Learning Outcomes																		
Skills and personal development				Emotional and value goals				Program specific objectives				Cognitive goals				Specialist General Auxiliary	Curriculum	/ Year Level
D4	D3	D2	D1	C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1			
		√			√				√			√				Specialist	Histopathology1	Third level
			√				√				√				√	Specialist	Hematology1	
	√			√				√						√		Specialist	Medical Virology	
			√			√				√		√				Specialist	Clinical Endocrinology	
√				√					√					√		Specialist	Human Genetics1	
	√						√			√		√				Specialist	Immunology1	
	√					√					√		√			Specialist	Advanced Laboratory Techniques	
		√		√					√			√			√	General	Computer Applications1	
			√		√						√			√		Specialist	Histopathology2	
			√			√				√				√		Specialist	Hematology2	
		√		√						√					√	Specialist	Medical Mycology	
			√				√			√			√			Specialist	Metabolic disorder	
√						√					√					Specialist	Human Genetics2	
	√					√		√						√		Specialist	Immunology2	
		√		√					√				√			Specialist	Analytical Biostatistics	
	√				√					√				√		General	Computer Applications2	

Mapping of Course Learning Outcomes to Program Outcomes																		
Course Learning Outcomes																		
Skills and personal development				Emotional and value goals				Program specific objectives				Cognitive goals				Specialist General Auxiliary	Curriculum	Year / Level
D4	D3	D2	D1	C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1			
		√		√						√			√			Specialist	Clinical Immunology 1	Fourth level
	√						√				√				√	Specialist	Diagnostic Bacteriology 1	
		√		√				√					√			Specialist	Clinical Enzymology	
			√			√				√		√				Specialist	Diagnostic parasitology1	
√				√					√					√		Specialist	Blood Transfusion	
	√						√			√			√			Specialist	Pathology	
		√				√					√		√			General	Professional Ethics	
		√			√				√			√			√	Auxiliary	Research Methods	
			√		√					√			√			Specialist	Clinical Immunology 2	
	√					√		√						√		Specialist	Diagnostic Bacteriology 2	
√						√					√				√	Specialist	Stem cell and Embryology	
			√			√				√			√			Specialist	Diagnostic parasitology2	
√						√					√					Specialist	Clinical Chemistry	
√					√			√							√	Specialist	Antibiotic Resistance and Infection Control	
		√				√				√		√				General	Laboratory management	
	√				√					√				√		Specialist	Graduation Project	