

Academic Program Description Form

University Name:

Faculty/Institute: Alsafwa University College

Scientific Department: Medical Laboratories Techniques

Academic or Professional Program Name: Bachelor in Medical Laboratories Techniques

Final Certificate Name: Bachelor in Medical Laboratories Techniques

Academic System: Semester in first , second and third stages and year in fourth stage

Description Preparation Date: 13/10/2024

File Completion Date: 13/10/2024



Signature:

Assist. Prof. Sabah Talib Najim

Head of Department Name:

Date: 13/10/2024



Signature:

Prof. Haider Galil Kamil

Scientific Associate Name:

Date: 13/10/2024

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 13/10/2024

Signature: 

Prof. Moez Hassan Mohammed



Approval of the Dean

Prof. Mohsen Fadel Mohsen Al-Birman

1. Program Vision

Excellence in preparing graduates armed with the academic knowledge and technical expertise necessary to work in government medical laboratories and private sector laboratories.

2. Program Mission

Preparing graduates who have a solid scientific level, extensive practical experience, and personal abilities that qualify them to keep pace with scientific and technical development and engage in the fields of work in medical laboratories.

3. Program Objectives

- 1- Preparing technical staff who possess the basic knowledge and skills in the fields of pathological analysis that qualify them to conduct laboratory analyzes and various tests in medical laboratories.
- 2- Training students and teaching them how to conduct scientific research in order to contribute to finding solutions to various health problems
- 3- Conducting scientific cooperation with corresponding departments in various colleges inside Iraq.
- 4- Accurate knowledge of the working methods, selection and preparation of materials required to conduct various pathological analyses
- 5- Diagnosing pathogenic causes, whether these causes are bacterial, parasitic, fungal or viral, and gaining the ability to investigate them.
- 6- Diagnosing genetic diseases and distinguishing them from acquired diseases
- 7- Accurate knowledge of laboratory equipment used in pathological analyzes and their operation and maintenance

8- Dealing with infectious and communicable disease cases and how to prevent them inside the laboratory by implementing occupational safety guidelines

9- Familiarity with the human aspects of dealing with the patient, which is an important part of treatment.

4. Program Accreditation

Non

5. Other external influences

Theoretical – practical – oral – summer training in hospitals

Students graduation researches

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	4	16	8.5%	
College Requirements	4	6	3.2%	
Department Requirements	39	166	88.3%	
Summer Training	1	Satisfied		
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
First/ Semester 1		General chemistry 1	2	4

First/ Semester 1		Medical terminology	1	-
First/ Semester 1		Human biology 1	2	4
First/ Semester 1		Laboratory instruments 1	2	2
First/ Semester 1		Medical ethics	2	-
First/ Semester 1		Computer Applications 1	1	2
First/ Semester 1		Human rights and Democracy	2	-
First/ Semester 1		English language	2	-
First/ Semester 2		General chemistry 2	2	4
First/ Semester 2		Anatomy	2	4
First/ Semester 2		Human biology 2	2	4
First/ Semester 2		Laboratory instruments 2	2	2
First/ Semester 2		Computer Applications 2	1	2
First/ Semester 2		Arabic language	2	-
Second/ Semester 1		Medical Bacteriology 1	2	4
Second/ Semester 1		Biochemistry 1	2	4
Second/ Semester 1		Human physiology 1	2	2
Second/ Semester 1		Histology 1	2	2
Second/ Semester 1		Molecular Biology	2	4
Second/ Semester 1		Medical Parasitology 1	2	4
Second/ Semester 2		Medical Bacteriology 2	2	4
Second/ Semester 2		Biochemistry 2	2	4
Second/ Semester 2		Human physiology 2	2	2
Second/ Semester 2		Histology 2	2	2
Second/ Semester 2		Medical Parasitology 2 & Entomology	2	4
Second/ Semester 2		Descriptive Biostatistics	1	2
Third/ Semester		Histopathology/1	2	2

1				
Third/ Semester 1		Haematology/1	2	2
Third/ Semester 1		Medical Mycology	2	4
Third/ Semester 1		Metabolic Disorders	2	4
Third/ Semester 1		Medical Genetics/1	2	4
Third/ Semester 1		Immunology/1	2	4
Third/ Semester 1		Advanced Laboratory Techniques	2	2
Third/ Semester 1		Computer Applications/1	1	2
Third/ Semester 2		Histopathology/2	2	2
Third/ Semester 2		Haematology/2	2	2
Third/ Semester 2		Medical Virology	2	4
Third/ Semester 2		Clinical Endocrinology	2	4
Third/ Semester 2		Medical Genetics/2	2	4
Third/ Semester 2		Immunology/2	2	4
Third/ Semester 2		Analytic Biostatistics	1	3
Third/ Semester 2		Computer Applications/2	1	2
Fourth		Clinical Immunology	2	4
Fourth		Diagnostic Bacteriology	2	4
Fourth		Blood Bank	2	4
Fourth		Clinical Chemistry	2	4
Fourth		Medical Parasitology	2	4
Fourth		Histopathology	1	3
Fourth		English language	1	-
Fourth		Laboratory Management	1	-
Fourth		Professional Ethics	1	-
Fourth		Graduation Project	-	5

8. Expected learning outcomes of the program
Knowledge
<p>1- Introducing the students of the Medical Laboratory Technology Department to basic biology such as molecular biology, histology, physiology, parasitology, immunity, microbiology, genetics, and viruses.</p> <p>2- Introducing the department's students to general, life and clinical chemistry topics</p> <p>3- Enabling the department's students to master the topics of tissue diseases and blood diseases.</p>
Skills
<p>1- Enabling students to use laboratory equipment.</p> <p>2- Enabling students to diagnose pathogens such as parasites, bacteria, and fungi.</p> <p>3- Enabling students to conduct various laboratories analyzes using what they have learned in biochemistry, clinical chemistry, and clinical immunology.</p>
Ethics
<p>1- Appreciating the greatness of the Creator (Allah), Glory be to Him.</p> <p>2- Giving them human values in dealing with patients</p> <p>3- Giving them professional ethics</p> <p>4- Teach them the values of dealing with colleagues at work</p> <p>5- Accustoming them to cooperative work</p>

9. Teaching and Learning Strategies
<p>1- The lecture: It is conducted using educational technologies such as display devices and smart screens, and the lecture is enhanced with questions that the teacher directs to his students.</p> <p>2- Using cooperative learning within the classroom by dividing students into groups and presenting each group with a scientific problem that requires the group members to reach the solution and then discuss all the solutions.</p> <p>3- Distributing the students into groups and assigning each group to prepare a research paper on one of the vocabulary items stipulated in the curriculum and discuss the research in front of the students.</p> <p>4- Summer training: The students of the second stage and the students of the third stage are distributed to hospitals during the months of July and August. This provides a golden opportunity for the students to gain practical experience from the real world. Summer training also works on students employing what they learned in</p>

college to work in hospitals.

5- Hosting some professors and those with experience in the field of pathological analyzes to give lectures to students. This increases the students' excitement to study and understand the academic topics.

6- Field visits to relevant institutions in the center of the Holy Karbala Governorate, such as the Al-Warith International Cancer Foundation, the Directorate of Forensic Evidence, and some hospitals.

10. Evaluation methods

1- Daily preparation and participation in the classroom

2- Exams and daily papers

3- Monthly exams

4- Reports and research

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	5				1	4
Assist. Prof.	2				2	-
Lecturer	9				3	6
Assist. Lecturer	38				36	2
Total	54				42	12

Professional Development

Mentoring new faculty members

Participation and attendance in courses and workshops held by the college and

department

Professional development of faculty members

Asking teachers to present new developments and use modern educational techniques in preparing lectures

12. Acceptance Criterion

1- Admission is centralized within the rates determined by the Ministry of Higher Education and Scientific Research

2- Conduct an interview for accepted students to ensure that there is nothing preventing their eligibility to study, such as speech or personality defects, and conduct a medical examination.

13. The most important sources of information about the program

1- Teachers' lectures

2- Central College Library

3- Information network (Internet)

4- The sources of assistance that teachers recommend for their students to benefit from

14. Program Development Plan

1- Teachers provide scientific seminars (seminars) on emerging topics in the specialty

2- Involving students in discussion sessions on emerging topics.

3- Assigning students to search for modern scientific sources in their specialty.

4- – Reviewing academic curricula and making notes to improve them in keeping with the labor market and informing the Council of Deans of Health and Medical Technical Colleges.

5- Analyzing the results of evaluation exams to identify weaknesses in order to avoid them and enhance strengths to benefit from them in the future.

Course Description Form(2024- 2025)

1. Course Name:	
Biochemistry	
2. Course Code:	
3. Semester / Year:	
Second Year (Semester)	
4. Description Preparation Date:	
21 / 10 / 2024	
5. Available Attendance Forms:	
6. Number of Credit Hours (Total) / Number of Units (Total)	
120 Hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Entidhar Sahib Mohamed Email: entaly2018@gmail.com	
8. Course Objectives	
<p>Course Objectives</p> <p>At the end of the academic year, the student should be able to:</p> <ol style="list-style-type: none"> 1. Identifying cellular metabolism and its types and understanding metabolic pathways. 2. Knowing and understanding carbohydrates and carbohydrate metabolism within cells. 3. Knowing and understanding how energy is produced and its role in metabolism within cells. 4. Knowing and understanding fats and fat metabolism within cells. 5. Knowing proteins, their structure, and understanding protein metabolism. 6. Knowing hormones and understanding how they work within the body. 7. Identify vitamins, their types, and their role in the body. 8. Knowledge of salts and minerals and their role in the body. 9. Knowing purines and pyrimidines and understanding their metabolism with the body. 	
9. Teaching and Learning Strategies	
Strategy	1. Providing students with the basics and supporting topics related the pre-skills learning outcomes.

2. Applying the topics studied in theoretical lessons on the practical level.
3. Asking students to identify the types of nutrients and its pathway metabolism in body.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First Semester					
1	2practical+2 theoretical	Understand the lecture	Introduction to metabolism	Lecture Laboratory	Attendance Daily exam
2	2practical+2 theoretical	Understand the lecture	Types of metabolism	Lecture Laboratory	Attendance Daily exam
3	2practical+2 theoretical	Understand the lecture	Metabolism in disease exercise and obesity	Lecture Laboratory	Attendance Daily exam
4	2practical+2 theoretical	Understand the lecture	Nutrition and its role in body	Lecture Laboratory	Attendance Daily exam
5	2practical+2 theoretical	Understand the lecture	Body chemistry in case of illness	Lecture Laboratory	Attendance Daily exam
6	2practical+2 theoretical	Understand the lecture	Regulating water and acidity in body	Lecture Laboratory	Attendance Daily exam
7	2practical+2 theoretical	Understand the lecture	Regulating salts in body	Lecture Laboratory	Attendance Daily exam
8	2practical+2 theoretical	Understand the lecture	Carbohydrate and its metabolism	Lecture Laboratory	Attendance Daily exam
9	2practical+2 theoretical	Understand the lecture	Metabolism of monosaccharide, Disaccharide and polysaccharide	Lecture Laboratory	Attendance Daily exam
10	2practical+2 theoretical	Understand the lecture	Metabolism of pentose and hexose of monosaccharide	Lecture Laboratory	Attendance Daily exam
11	2practical+2 theoretical	Understand the lecture	Metabolism of aminoglycans glycoprotein	Lecture Laboratory	Attendance Daily exam
12	2practical+2 theoretical	Understand the lecture	ATP synthesis and its role in metabolism of body	Lecture Laboratory	Attendance Daily exam
13	2practical+2 theoretical	Understand the lecture	Types of lipids and its role in body	Lecture Laboratory	Attendance Daily exam
14	2practical+2 theoretical	Understand the lecture	Lipids catabolism and oxidation	Lecture Laboratory	Attendance Daily exam
15	2practical+2 theoretical	Understand the lecture	Lipids synthesis	Lecture Laboratory	Attendance Daily exam

Second Semester					
1	2practical+2 theoretical	Understand the lecture	Hormones, their type and composition	Lecture Laboratory	Attendance Daily exam
2	2practical+2 theoretical	Understand the lecture	Function of hormone and their role in the body	Lecture Laboratory	Attendance Daily exam
3	2practical+2 theoretical	Understand the lecture	Mechanism of regulation and secreting hormone in the body	Lecture Laboratory	Attendance Daily exam
4	2practical+2 theoretical	Understand the lecture	Proteins, their composition and type	Lecture Laboratory	Attendance Daily exam
5	2practical+2 theoretical	Understand the lecture	Enzymes, their function and types	Lecture Laboratory	Attendance Daily exam
6	2practical+2 theoretical	Understand the lecture	Metabolism of protein their manufacture and breakdown	Lecture Laboratory	Attendance Daily exam
7	2practical+2 theoretical	Understand the lecture	Vitamins and their type	Lecture Laboratory	Attendance Daily exam
8	2practical+2 theoretical	Understand the lecture	Vitamins and their role in the body	Lecture Laboratory	Attendance Daily exam
9	2practical+2 theoretical	Understand the lecture	Minerals and its type	Lecture Laboratory	Attendance Daily exam
10	2practical+2 theoretical	Understand the lecture	Classification of minerals and their function	Lecture Laboratory	Attendance Daily exam
11	2practical+2 theoretical	Understand the lecture	Absorption, metabolism and excretion of minerals	Lecture Laboratory	Attendance Daily exam
12	2practical+2 theoretical	Understand the lecture	Purines and pyrimidines and their manufacture	Lecture Laboratory	Attendance Daily exam
13	2practical+2 theoretical	Understand the lecture	Purines and pyrimidines and their breakdown	Lecture Laboratory	Attendance Daily exam
14	2practical+2 theoretical	Understand the lecture	Nucleotides and their metabolism	Lecture Laboratory	Attendance Daily exam
15	2practical+2 theoretical	Understand the lecture	Nucleotide synthesis	Lecture Laboratory	Attendance Daily exam
11. Course Evaluation					
<p>The following evaluation methods are adopted:</p> <ol style="list-style-type: none"> 1. Theoretical and practical tests. 2. Reports. 3. Attendance and discussion. <p>The grades are distributed as follows:</p> <ol style="list-style-type: none"> 1- Two monthly exams with a score of 20 points. 2-5 marks for activity and attendance. 3- 15 marks for the practical part, so the pursuit mark is 40. 4- The final exam score is distributed (35) points for the theoretical part and (25) points for the practical part, so the final score is 100. 					
12. Learning and Teaching Resources					
Required textbooks (curricular books, if any)				Not found	

Main references (sources)	<ol style="list-style-type: none"> 1. Lippincott Illustrated Reviews Biochemistry 8th 2. Harper's Illustrated Biochemistry 31e 2018_1397-4-5-10-25 3. Textbook_of_Biochemistry_For_Medical_Students_6th_Edition_PDFDrive
Recommended books and references (scientific journals, reports...)	<ol style="list-style-type: none"> 1. Karbala Medical Journal 2. Karbala Journal of Pharmaceutical Sciences 3. Karbala International Journal of Modern Sciences
Electronic References, Websites	Official World Health Organization website