

**Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department**



Academic Program and Course Description Guide

2024

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: Middle Technical University
Faculty/Institute: Baqubah Technical College
Scientific Department: Medical Laboratory Techniques
Academic or Professional Program Name: Medical Laboratories
Final Certificate Name: . Medical Laboratories.
Academic System: Courses
Description Preparation Date: 2\9\2025
File Completion Date: 3\9\2025

Signature: 


Head of Department Name:
A.D Fatima Ammer Abdul
Jabbar
Date: 3/9/2025

Signature: 

Scientific Associate Name:
Dr. Saja Mohammed Mohsen
Date: 3/9/2025

The file is checked by:


Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:

Waddah Ismail Ibrahim 

Date: 3/9/2025

Signature:




Approval of the Dean

1. Program Vision

The Department of Medical Laboratory Technology, which is one of the applications of applied medical sciences in the College of Technology in Baqubah, is based on the vision and mission of the Middle Technical University, which aims to provide distinguished global education in a local environment to prepare leaders in the field of applied medical sciences who have the ability to provide various health services with a high degree of responsibility and efficiency, with full commitment to our religious and cultural values.

2. Program Mission

Healthcare and related biomedical fields are among the fastest growing industries due to large populations, expanded healthcare coverage, and technological advances. Recognizing this, the number of applied science programs in Iraq has been rapidly expanding in the past few years to cater to this concept. Although there are increasing subspecialties in this field, most applied science programs offer a single track; professional medical laboratory (clinical) technologists have multiple tracks.

3. Program Objectives

Working on preparing specialized scientific and technical professional cadres to work in hospital laboratories, Ministry of Health joints, public and private laboratories and other related departments to serve the community.

Developing the research, scientific and technical capabilities of faculty members and graduates, keeping pace with modern developments and encouraging the use of advanced methods in areas of specialization.

Working on establishing strong joint scientific research relations with similar departments in government universities and other universities in different countries by participating in seminars, courses and training workshops and investing them.

Providing scientific, technical and research consultations to contribute to solving some scientific and specialized problems that some related institutions need.

The department aspires to achieve the desired future goals by crowning its scientific career by opening postgraduate studies in the department.

4. Program Accreditation

Yes, it is programmatically accredited by EHAC 2013 Standards and criteria.

5. Other external influences

Is there a sponsor for the program?

The opinion of the labor market is taken through the graduates and officials follow-

up form.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements	Second stage	14+24=38		
Summer Training	Third stage			
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
Second Level		General chemistry 2	2	5
		Anatomy	2	5
		Human biology 2	2	5
		Laboratory instruments 2	2	4
		Computer Applications 2	1	2
		Arabic language	2	---

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	Working on preparing specialized scientific and technical professional cadres to work in hospital laboratories, Ministry of Health joints, public and private laboratories and other related departments to serve the community. Developing the research, scientific and technical capabilities of teachers and graduates,

	keeping pace with modern developments and encouraging the use of advanced methods in areas of specialization
Skills	
Learning Outcomes 2	1- Measuring vital values 2- Withdrawing fluids and transfusing blood.
Ethics	
Learning Outcomes 4	1- Written tests. - Daily assessment. - Midterm exams. - Final exams

9. Teaching and Learning Strategies
A- Knowledge and understanding B- Subject-specific skills C- Thinking skills D- General and transferable skills.

10. Evaluation methods
Daily assessment. - Oral tests. - Written tests. - Midterm exam. - Final exam.

11. Faculty						
Faculty Members						
Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
1- Assistant Prof doctor	3				3	
2- Doctor lecture	2				2	
3- Assistant lecture	9				9	

Professional Development

Mentoring new faculty members

Caring for students intellectually and educationally in a way that achieves the interest of the homeland and the nation in establishing the foundations of the democratic Iraqi society towards building a high human civilization, adopting the scientific method in thinking and practice as a tool to achieve these goals.

- Conducting theoretical, practical, applied and field teaching, training, laboratories and experimental fields and preserving their assets.
- Conducting scientific research in various fields.
- Contributing to permanent and temporary councils and committees inside and outside the ministry.
- Conducting exams and monitoring their smooth running

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12. Acceptance Criterion

Central acceptance.

2- Average

13. The most important sources of information about the program

- 1- The central library of the university and its books of the institute
- 2- The Internet
- 3- Experiences of international and Arab universities
- 4- Current curricula

14. Program Development Plan

Developing students' capabilities in research and investigation through field visits to hospitals and health centers and developing projects related to medical laboratories and their branches.

Program Skills Outline

				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
		General chemistry 2	Basic	√	√	√	√	√	√	√	√	√	√	√	√
		Anatomy	Basic	√	√	√	√	√	√	√	√	√	√	√	√
		Human biology 2	Basic	√	√	√	√	√	√	√		√	√	√	√
		Laboratory instruments 2	Basic	√	√	√	√	√	√	√		√	√	√	√
		Computer Applications 2	General	√	√	√	√	√	√	√		√	√	√	√
		Arabic language	General	√	√	√	√	√				√	√	√	√

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

Course Description Form

1. Course Name:					
Anatomy					
2. Course Code:					
3. Semester / Year:					
2024-2025					
4. Description Preparation Date:					
16 / 7 / 2025					
5. Available Attendance Forms:					
Lectures and laboratories					
6. Number of Credit Hours (Total) / Number of Units (Total)					
7 h./week in 4 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Noor Owaid Owada Email: nooralialimourad@mtu.edu.iq					
8. Course Objectives					
Course Objectives			<p>1-Learn the names and functions of organs and vital systems, such as the nervous, muscular, circulatory, digestive, and respiratory systems.</p> <p>2-Understanding how organs are positioned relative to each other, which helps in applying information in clinical and surgical examinations.</p> <p>3-Building a scientific foundation for understanding diseases, injuries, and pain sites based on anatomical structure.</p> <p>5-Familiarity with basic medical anatomy as a cornerstone in understanding clinical sciences in the field of specialization</p>		
9. Teaching and Learning Strategies					
Strategy		Lecturing and discussion strategies			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	2	General Anatomy	Introduction to anatomy and human body, level of organization ,anatomical position ,body regions and cavities ,body planes and sections ,directional terms	Discussion	Discussion after the lecture. -Weekly reports -Monthly exams
2	2		Tissues and Membranes	Discussion	Discussion after the lecture. -Weekly reports -Monthly exams
3	2		Body regions Upper limb ,lower limb ,thorax	Discussion	Discussion after the lecture. -Weekly reports -Monthly exams
4	2		Abdomen, pelvis , head and neck	Discussion	Discussion after the lecture
5	2		Bodysystems :Musculoskeletal system: Bones , joints and muscles	Discussion	Weekly reports
6	2		Digestivesystem: Digestivetract ,Accessoriesand glands	Discussion	Discussion after the lecture.
7	2		Cardiovascular system: heart , blood vessels.		
8	2		lymphatic system.	Discussion	Weekly reports
9	2		Respiratory system		
10	2		Nervoussystem: centralnervous systemperipheral nervous system		-Monthly exam

11	2		Endocrine system	Discussion	-Weekly reports
12	2		Special senses		
13	2		Urinary system		
14	2		Reproductive System		
15	2		Gynecology, pregnancy , childbirth ,Embryology, Childhood, Growth and Development		

11.Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Drake R.L. (eds) (2019). <i>Gray's Anatomy for Students</i> . London: Elsevier.
Main references (sources)	Netter, F. (2019). <i>Atlas of Human Anatomy</i> (7th ed.). Philadelphia, PA: Saunders
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
General chemistry 2
2. Course Code:
3. Semester / Year:
2024-2025
4. Description Preparation Date:

5. Available Attendance Forms:					
6. Number of Credit Hours (Total) / Number of Units (Total)					
Number of hours: 7 Number of units: 4					
7. Course administrator's name (mention all, if more than one name)					
Name: Oras Khalis Yaseen Email: oraschem80@mtu.edu.iq					
8. Course Objectives					
Course Objectives			Course objectives: The student will become familiar with the chemistry lab in general. General objective: - Learn how to conduct organic chemical reactions and prepare standard solutions and concentrations.		
9. Teaching and Learning Strategies					
Strategy		The student learns about the most important biomolecules in the body, their types, chemical composition, and vital functions. The student learns how to work in the laboratory, take precautions and warnings when handling chemicals, and how to use laboratory equipment and prepare solutions.			
10- Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	2	The student learns about carbohydrates, their types, and their biological functions.	Carbohydrates: 1- Definition. 2- Biological functions. 3- Classification.	presence	Feedback Daily online assignment Daily assessment exam
3-4	2	The student learns about lipids, their types, and their biological functions.	Lipids: 1- Definition.		

5-6	2	The student learns about amino acids, their types, and their biological functions.	2- Biological functions. 3- Classification.	Weekly exam Semester exam
7	2		Amino acids and Proteins: 1- Definition. 2- Biological functions. 3- Classification.	
8-9	2	The student learns about nucleic acids, their chemical structure and the difference between essential nucleic acids, their types, and their biological functions.	Review and exam	
			Nucleotides and Nucleic acids: 1- Definition. 2- Classification of nitrogenous bases. 3- Biological functions of free nucleotides.	
10	2	The student learns about the general descriptions of enzymes, their types, their biological functions, and the factors affecting enzyme function.	4- General structure and differences between DNA and RNA.	
			General properties of enzymes: a) active sites b) catalytic efficiency c) specificity d) cofactor e) regulation f) location within the cells	
11	2	The student learns about vitamins, their types, and their biological descriptions.	2- Factors affecting reaction velocity a) Substrate concentration b) Temperature c) pH	
12	2	The student learns about Renaissance energy, its importance in the diversity of our diets, and its sources.		
			Vitamins: 1- Definition. 2- Classification (Water and Fat soluble vitamins). 3-, sources, daily requirement, biological function and abnormal conditions due to deficiency or toxicity	
13	2	The student learns about the most important differences in energy used in the modern era.		
			Solar energy technology 1- Availability of solar radiation 2- Photovoltaic devices 3- Dye sensitized solar cells 4- Advantages of Solar Energy 5- Disadvantages 6- Future	
14		- Photocatalytic water splitting reaction. 2- Nanoconductor material for photocatalytic text splitting. 3- Improved development of photocatalytic materials using nanotechnology		

15			Electrochemic Hydr Productio		
			Nanotechnology in ren energy 1-Nanotechnology enable renewable energy technologies 2-Energy transport, conversion and storage- Nano, micro and meso scalephenomenadevices		
			Nanotechno Hydrogen Prod 1-Photocatalytic water s re 2-Nano semiconductor m for photocatalytic water s photolytic H2 -11 Evolution based on Nano enhanced -12 materials		
			Revision		
11-Course Evaluation					
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc					
12-Learning and Teaching Resources					
Required textbooks (curricular books, if any)					
Main references (sources)			Essential biochemistry for medicir Mitchell Fry		
Recommended books and references (scientific journals, reports...)			<i>Organic Chemistry - Jonathan Clayden, Nick Greeves, Stuart Warren - Google Books.</i> (n.d.). Retrieved July 20, 2022, from https://books.google.iq/books		
Electronic References, Websites			Organic Chemistry (AS). -Babylon university College of pharmacy practical biochemistry Prof. assist Dr. abduhussien al-jebory and tamadhur al-salman. Cho, R. (2021) <i>Why We Need Green Hydrogen.</i> Columbia University. Solar EnergyRenewable Energy and the EnvironmentBy Robert Foster, Majid Ghassemi, Alma Cota .		

Course Description Form

1. Course Name:
Lab. Instrumentation 2
2. Course Code:
Medical laboratory Techniques
3. / Year: Courses
Semester
4. Description Preparation Date:

27-7-2025					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total) =					
30 hr \ 4 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Eman Ismail Mohammed					
Email: emha2015@mtu.edu.iq					
8. Course Objectives					
Course Objectives			1- Definition of Lab. Instrumentation 1 2- parts of devices . 3- types , advantages , disadvantages of each device		
9. Teaching and Learning Strategies					
Strategy		- The lectures. - Systematic training			
13. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	Types of microtome - Rotary Microtome Rotary Microtome parts - Operation of Rotary Microtome . Advantages - Disadvantages Care of the Rot Microtome	Microtome	Lecture	Daily Evaluation
3	2	Principle -Parts - Types -Applications	Water bath	Lecture	Submit Reports
4	2	Principles-Applications Advantages-Disadvantage	Hot Air Oven	Lecture	Oral exams
5	2	Essential components required. Principles of PCR (Steps of PCR) Applications	PCR machine	Lecture	Discussion on the topic
6		Agarose Gel	Gel Electrophoresis	Lecture	Daily Evaluation

	2	Electrophoresis – Principle Electrophoresis Equipment - Electrophoresis Materials			
7-9	6	Steps of agarose gel electrophoresis – Applications Types - Principle Applications	Automated Analysers	Lecture	Submit Reports
10	6	Principle & Applications	Complete Blood Count machine	Lecture	Daily Evaluation
11-12		Principle & types- Paper chromatography Thin layer chromatograph Column chromatography	Chromatography apparatus	Lecture	Submit Reports
13			Types & Uses of the filters	Lecture	Oral exams
14		Types – Applications	Laboratory test Tubes	Lecture	Daily evaluation
15			Review	Lecture	

14. Course Evaluation

- **Oral exams.**
- **Daily evaluation.**
- **Quarterly exams.**
- **Final exams**

15. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Methodical books
Main references (sources)	Lectures , vocational training and field Visits.
Recommended books and references (scientific journals, reports...)	scientific journals, reports
Electronic References, Websites	Websites and scientific seminars

Course Description Form

1. Course Name:
Computer Application
2. Course Code:
3. Semester / Year:
2024-2025
4. Description Preparation Date:
15/ 12/ 2024
5. Available Attendance Forms:
Students
6. Number of Credit Hours (Total) / Number of Units (Total)
3 hours \ 2 units
7. Course administrator's name (mention all, if more than one name)
Name: Salam Jabbar abdul-kathom Email: salam.jabbar@mtu.edu.iq

8. Course Objectives

Course Objectives	<p>Utilize the computer for fundamental tasks</p> <p>Identify hardware components of computer system</p> <p>Creating documents using word processing and Excel</p> <p>Creating presentations using power point processing</p> <p>Introduction internet and web browser</p> <p>Communication and emails</p> <p>Computer trapshooting</p>
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9. Teaching and Learning Strategies

Strategy	<p>Board Normal</p> <p>Computers</p> <p>Presentation using PowerPoint</p> <p>Discussion</p> <p>Collaborate</p>
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Concepts hardware software Computer	Introduction to computer	Presentation	Computer training
2	3	components units memory type CPU components personal computer and features	Computer components	Presentation	Daily test
3,4	6	operation system user interface mouse technique common icon concept of folder and direction type of OS creating shortcut	Operation system and GUI	Presentation	Computer training
5,6	6	Word processing Open and close formatting	Word processing	Presentation	Computer

		save and save as pdf , inset sha and table , pa number , langua setting , printi doc.		Presentation	training
7,8	6	Basic spreadsheet: manipulation of c and functio editing of sheet a printing sheets	Spreadsheet	Presentation Presentation Presentation	Computer training And Daily te
8,9	6	Basic presentation software: creati presentation a formatting slides Taking printout presentation	Presentation software		Computer training And Daily te
10	3	Computer netwo basic: LAN,WAN connect to interne And it applicatio connect to w browser a searching, doma name IP, URL	Introduction to internet and web browser		Computer training And Daily te
11	3	Basic of electro mail, creating email account, se and receive em and using email	Communication a email		Computer training
12	3	Identify solvi problem hardwa and software a basic	Computer troubleshooting		Computer training

		troubleshooting tools to resolve issues			
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11.Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc yes

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	<p><u>Graham Brown Cambridge IGCSE</u></p> <p><u>Information and Communication</u></p> <p><u>Technology 3rd edition</u></p>
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	https://support.microsoft.com/en-us/training

Course Description Form

1-Course Name:	
Human biology 2	
2-Course Code:	
Human biology 2	
3-Semester / Year:	
Second Semester 2025–2026	
4-Description Preparation Date:	
26/7/2025	
5-Available Attendance Forms:	
(Lectures: theoretical + practical)	
6-Number of Credit Hours (Total) / Number of Units (Total)	
60 hours (30 theoretical + 30 practical) Number of units = 4	
7-Course administrator's name (mention all, if more than one name)	
Name: M. Anwar Ali Kadhim Mahdi Email: alianwmicrbio81@mtu.edu.iq	
8-Course Objectives	
Course Objectives	<ol style="list-style-type: none"> 1. The second section of medical biology deals with the types of creatures by analyzing the partial foundations of evolution by comparing the chemical environment of specific proteins (such as hemoglobin, enzymes, and hormones). It also focuses on the study of lower organisms such as bacteria, viruses, parasites, fungi, and others, focusing on the existence of these organisms and their medical importance.
9-Teaching and Learning Strategies	
Strategy	<ol style="list-style-type: none"> 1. The student can distinguish between the phenotypic and microscopic characteristics of bacterial cells 2. Laboratory analysis and work are among the old and modern methods for determining the identity of disease-causing bacteria

3. The student can choose the best method to determine the appropriate antibiotic against bacteria
4. Theoretical lectures, scientific field trips, workshops, and training courses
5. Periodic reports – theoretical exams – standardized practical exams and direct questions

10-Course Structure

Week	Hours		Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	2		Harmful Activity of Bacteria, (Bacterial Diseases in Human and Animals, Control of bacteria	Lecture method, Discussion method	Written tests Oral tests
2	2	2		Kingdom of Protista ,Simple Algae, Harmful of Algae	Lecture method, Discussion method	Written tests
3	2	2		Kingdom of Protista, Protozoans, Classification of Protozoa	Lecture method, Student groups	oral tests
4	2	2		Phylum of Sarcodina, Amoebae's, Phylum of Zoomastigina, Trypanosome, Giardia	Lecture method, Practical side	Written tests
5	2	2		Phylum of Sporozoa, Plasmodium	Lecture method, Discussion method	Oral tests
6	2	2		Kingdom of Fungi, Classification, Reproduction	Lecture method, Discussion method	Written test
7	2	2		Harmful Activities of	Lecture method, Discussion	Oral tests

				Fungi	method	
8	2	2		Yeast and Yeast like Fungi, Characteristic and Classification, Candida.	Lecture method, Discussion method	Written tests,
9	2	2		Kingdom of Animals, Classification, Invertebrates and Vertebrates, Importance to Human Diseases	Lecture method, Discussion method	Oral tests
10	2	2		Human Bodies, Protection, Support and Locomotion	Lecture method, Discussion method	Written tests,
11	2	2		Human Body Defense (Immunity, Antigen, Antibody), Hormones, Enzymes	Lecture method, Discussion method	Oral tests
12	2	2		Helminths, Characteristics and Classification	Lecture method, Discussion method	Written tests, Oral tests
13	2	2		Flat Worms, Round Worms, Classification, Harm full Activities to Human	Lecture method, Discussion method	
14	2	2		Management of industrial, agricultural and medical waste		
15	2	2		Scientific Methods , Steps and Examples of Scientific	Lecture method, Discussion method	Written tests, Oral tests

				Methods		
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12-Learning and Teaching Resources

Required textbooks (curricular books, if any)	
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...)	
Electronic References, Websites	

**Ministry of Higher Education and Scientific Research
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2025

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Academic Program Description Form

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Faculty/Institute: Baqubah Technical College
Scientific Department: Medical Laboratory Techniques
Academic or Professional Program Name: Medical Laboratories
Final Certificate Name: . Medical Laboratories.
Academic System: Courses
Description Preparation Date: 2\9\2025
File Completion Date: 3\9\2025

Signature: 
Head of Department Name:
A.D Fatima Ammer Abdul
Jabbar
Date: 3/9/2025

Signature: 
Scientific Associate Name:
Dr. Saja Mohammed Mohsen
Date: 3/9/2025

The file is checked by:

Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Waddah Ismail Ibrahim 
Date: 3/9/2025
Signature:



1. Program Vision

The Department of Medical Laboratory Technology, which is one of the

applications of applied medical sciences in the College of Technology in Baqubah, is based on the vision and mission of the Middle Technical University, which aims to provide distinguished global education in a local environment to prepare leaders in the field of applied medical sciences who have the ability to provide various health services with a high degree of responsibility and efficiency, with full commitment to our religious and cultural values.

2. Program Mission

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3. Program Objectives

Working on preparing specialized scientific and technical professional cadres to work in hospital laboratories, Ministry of Health joints, public and private laboratories and other related departments to serve the community.

Developing the research, scientific and technical capabilities of faculty members and graduates, keeping pace with modern developments and encouraging the use of advanced methods in areas of specialization.

Working on establishing strong joint scientific research relations with similar departments in government universities and other universities in different countries by participating in seminars, courses and training workshops and investing them.

Providing scientific, technical and research consultations to contribute to solving some scientific and specialized problems that some related institutions need.

The department aspires to achieve the desired future goals by crowning its scientific career by opening postgraduate studies in the department.

4. Program Accreditation

Yes, it is programmatically accredited by EHAC 2013 Standards and criteria.

5. Other external influences

Is there a sponsor for the program?

The opinion of the labor market is taken through the graduates and officials follow-up form.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements	First stage	14n+14u=28		
Summer Training	Third stage			
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 stage		Medical Terminology	2	-
		General chemistry	2	5
		Human biology	2	5
		Laboratory instruments	2	4
		Medical ethics	2	-
		Human rights and D EMOCRACY	2	-
		English language	2	-

8. Expected learning outcomes of the program

Knowledge	
	Working on preparing specialized scientific and technical professional cadres to work in hospital laboratories, Ministry of Health joints, public and private laboratories and other related departments to serve the community. Developing the research, scientific and technical capabilities of teachers and graduates,

	keeping pace with modern developments and encouraging the use of advanced methods in areas of specialization
Skills	
	1- Measuring vital values 2- 2- Withdrawing fluids and transfusing blood.
Ethics	
	1- Written tests. - Daily assessment. - Midterm exams. - Final exams

9. Teaching and Learning Strategies
A- Knowledge and understanding B- Subject-specific skills C- Thinking skills D- General and transferable skills.

10. Evaluation methods
Daily assessment. - Oral tests. - Written tests. - Midterm exam. - Final exam.

11. Faculty					
Faculty Members					
Academic Rank	Specialization		Special Requirements/Skills (if applicable)	Number of the teaching staff	
	General	Special		Staff	Lecturer

1-Assistant Proof doctor	3				3	
2-Doctor lecture	2				2	
3- Assistant lecture	9				9	

Professional Development

Mentoring new faculty members

Caring for students intellectually and educationally in a way that achieves the interest of the homeland and the nation in establishing the foundations of the democratic Iraqi society towards building a high human civilization, adopting the scientific method in thinking and practice as a tool to achieve these goals.

- Conducting theoretical, practical, applied and field teaching, training, laboratories and experimental fields and preserving their assets.
- Conducting scientific research in various fields.
- Contributing to permanent and temporary councils and committees inside and outside the ministry.
- Conducting exams and monitoring their smooth running

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc

12. Acceptance Criterion

Central acceptance.
2- Average

13. The most important sources of information about the program

- The central library of the university and its books of the institute
- 2- The Internet
- 3- Experiences of international and Arab universities
- 4- Current curricula

14. Program Development Plan

Developing students' capabilities in research and investigation through field visits to hospitals and health centers and developing projects related to medical laboratories and their branches.

Program Skills Outline

				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
		Medical Terminology		-	-			-	-			-	-	-	-
		General Chemistry 1		-	-			-	-			-	-	-	-
		Human Biology 1		-	-			-	-			-	-	-	-
		Laboratory equipment 1		-	-			-	-			-	-	-	-
		Professional conduct		-	-			-	-			-	-	-	-
		Human rights and democracy		-	-			-	-			-	-	-	-
		English language		-	-			-	-			-	-	-	-

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

Course Description Form

1. Course Name:	
Human Biology 1	
2. Course Code:	
3. Semester / Year:	
Semester	
4. Description Preparation Date:	
10\11\2024	
5. Available Attendance Forms:	
6. Number of Credit Hours (Total) / Number of Units (Total)	
7 hours in week , 4 units	
7. Course administrator's name (mention all, if more than one name)	
Name: dr. Saja Mohammed Mohsen Email: sajamohammed@mtu.edu.iq	
8. Course Objectives	
Course Objectives	<p>1) Medical biology is one of the important basic sciences for students of medical colleges and related and similar colleges. Biological science studies many different forms of life as well as their mutual relationship with the surrounding environment and their relationship with other sciences.</p> <p>2) Biology gives a clear picture of living creatures by knowing their structure and functions.</p> <p>3) One of the most important principles of biological science is that all creatures are composed of cells, and this science studies the development of those cells in animals and all phenomena such as growth, structure, function, movement, inversion, reproduction, adaptation and others.</p> <p>4) Biology today focuses on analyzing the structure and functions of genes, organizing the synthesis of enzymes and proteins, studying the ultra-microscopic structure of the cell and its contents, studying the mechanism of cellular differentiation, as well as studying molecular biology.</p>

9. Teaching and Learning Strategies

Strategy	Lecturing and discussion strategies
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2+5		Definition of Biology, The Science of Biology, Importance of study Biology, Cell Theory, Some subdivision of Biology	lecturing and discussion strategies	Quiz
2	2+5		The Kingdom of living things, Classification of Organisms, Categories of Classification of Organisms, The five Kingdom Scheme of Classification	Lecturing and discussion strategies	Quiz
3+4	2+5		Cell Structure, Organelles and Functions, Physical Properties of Cells	Lecturing and discussion strategies	Quiz
5	2+5		Cell Membrane, Structure, Functions, Endocytosis, Exocytosis	Lecturing and discussion strategies	Quiz
6	2+5		Chemical composition of Cells, Biochemistry of cell	Lecturing and discussion strategies	Quiz
7	2+5		Prokaryotes Cells, Eukaryotes Cells, Difference, Characteristics and Comparison	Lecturing and discussion strategies	Quiz

8	2+5		The Characteristics of living things (Organisms), Evaluation, Adaptation, Respiration, Homeostasis, Metabolism, Anabolism, Catabolism, Respond to stimuli, Reproduction	Lecturing and discussion strategies	Quiz
9	2+5		Cell Division (Mitosis)	Lecturing and discussion strategies	Quiz
10	2+5		Cell Division (Meiosis)	Lecturing and discussion strategies	Quiz
11	2+5		Inheritance, Genetic Concepts and Principles	Lecturing and discussion strategies	Quiz
12	2+5		Gene Expression, Concepts, Mechanism of action	Lecturing and discussion strategies	Quiz
13	2+5		Organ Systems (Digestive ,Circulatory, Respiratory, Urinary, Muscularly, Nervous) Systems	Lecturing and discussion strategies	Quiz
14	2+5		Viruses, Virioids, Prions, Bacteriophages, Viral life cycle, Characteristics, Shapes, Viral Human Diseases, Harmful of Viruses	Lecturing and discussion strategies	Quiz
15	2+5		Kingdom of Monera: Phylum Schizophyta (Bacteria), Classification, Structure, Morphology, Growth , Function, Motility	Lecturing and discussion strategies	Quiz

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)

Main references (sources)

Prof. Gonsalves, Biology 25: Hum
Biology, Los Angeles City Colle

	Loosely Based on Mader's Hum Biology, 7th edition.
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Website learning

Course Description Form

1. Course Name:

General chemistry 1

2. Course Code:

3. Semester / Year:

2024-2025

4. Description Preparation Date:

15/12/2024

5. Available Attendance Forms:

Lectures and laboratories.

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

7 h./week in 4 units

7. Course administrator's name

Name: Dr.Hind Salman Jasim

Email: **hindsalman@mtu.edu.iq**

8. Course Objectives

Course Objectives

1-The student should be able to know how to conduct organic chemical reactions and prepare standard solutions and concentrations.

2- The student should be able to understand how to work in the laboratory, take precautions and warnings regarding dealing with chemicals, how to use laboratory equipment, and prepare solutions.

1. Teaching and Learning Strategies

Strategy	<p>-Providing students with theoretical information to know the chemical reactions.</p> <p>- Conducting chemical experiments in the department's laboratories.</p>
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2. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical 5 practical	Definition of matter , structure of atom , periodic table .	Introduction chemistry (matter structure of atom periodic table isotopes , atomic number , mass number, composition of matter ,types bonds)	-Interactive lecture. -Discussion . - Lab experiment	-Discussion after lecture. -Weekly reports. -Monthly exams.
-3		Methods analysis	-Analytical chemistry Methods of analysis		
4		-Definition of Acid base and their reaction .	-Acid base theory , types of Chemical reactions ,PH ,neutralization reaction		
5		-Knowledge of Periodic table and buffer.	-Periodic table equilibrium constants ,buffer solution		
6		- Explanation of Acid-base titration	- Acid-base titration oxidation –reduction		

7	oxidation – reduction reaction	reaction		
8-9	- Spectroscopy	- Spectroscopy (Optical spectroscopy, Beer's law)		
10	Review and examination	Review and examination		
11	- Structure of carbon compounds (alkanes, alkenes, alkynes, halogen compound)	- Structure of carbon compounds (alkanes, alkenes, alkynes, halogen compound)		
12	- Alcohols, classification, properties, reaction	- Alcohols, classification, properties, reaction		
13-14	- Aldehydes and ketones, properties, reaction - Carboxylic acid	- Aldehydes and ketones, properties, reaction - Carboxylic acid		

15		Aromatic , Hydrocarbon - Amines ,properties ,chemical reaction	, Aromatic , Hydrocarbon - Amines ,properties ,chemical reaction		
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3. Course Evaluation

40 marks for the mid and 60 marks for the final exam

4. Learning and Teaching Resources

Required textbooks (curricular books, if any)

Main references (sources)

Principle of general chemistry books

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

General chemistry books and journal

Electronic References, Websites

Trusted scientific and medical websites

Course Description Form

1. Course Name:

Medical Terminology

2. Course Code:

3. Semester / Year:					
2024/2025					
4. Description Preparation Date:					
17/12/2024					
5. Available Attendance Forms:					
Students					
6. Number of Credit Hours (Total) / Number of Units (Total)					
3 hours =4 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Heba Sattar Awad Email: satarh249@gmail.com					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> -•Find out the full meaning of the medical abbreviation -Spell words And parts of words •their pronunciation, definition and identification Demonstrate an understanding of medical terminology By defining terms in disease concepts and medical procedures 			
9. Teaching and Learning Strategies					
Strategy		Board Normal Interactive teaching, self-learning learning, diagnostic assessment, and many more			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	2	Medical Terminology	Introduction, defining medical terminology, techniques of medical word building, elements of medical word, word root, suffixes, prefixes	Presentation	Medical Terminology training
2	2		Common prefixes, common suffixes, body structure key terms, level of organization: cell, tissue, organ, system	Presentation	Common definition training
3	2		Pathology and abnormal condition: tumors, infection and inflammation, symptoms, disease and diagnosis	Presentation	Common definition training
4	2		Integumentary (skin) system	Presentation	Common definition training
5	2		Musculoskeletal system	Presentation	Common definition training
6	2		Digestive system and Cardiovascular system		
7	2		Blood, lymph and immune system		
8	2		Respiratory system		
9	2		Nervous system and Special senses		
10	2		Endocrine system		

11	2		Urinary system and Reproductive system		
12	2		Gynecology, pregnancy ,embryology and childbirth		
13	2		Childhood, growth and development		
14	2		Medical record activity and writing a diagnostic report		
15	2		Revision		

11.Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc yes

12.Learning and Teaching Resources

Required textbooks (curricular books, any)	
Main references (sources)	1-Nath, Judi Lindsley; Lindsley, Kelsey A Short Course in Medical Terminology Wolters Kluwer Health, 2018.
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1-Course Name:

English Language

2-Course Code:

3-Semester / Year:

semester

4-Description Preparation Date:

2024-2025

5-Available Attendance Forms:

17/ 12/2024

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

2 Units

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

Name: Shatha Abbas Hamad
Email: shos9141@gmail.com

8-Course Objectives

Course Objectives

1-Teaching students of health a medical specialists the Engl language....

2-..teaching students of health a medical specialists the English langua and focusing on what health and medi curricula require.

9-Teaching and Learning Strategies

Strategy

Strategy disscutions; excersices, training

10-Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
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1	2		Language medicine, Medical terms, Spelling medical terms Pronunciation medical terms	Theory lecture	Daily exams Monthly exams Quizz
2	2		Focus on reading, Vocabulary development, Focus on grammar, Oral skills, Focus on writing, Focus on reading, Vocabulary development, Focus on grammar, Oral skills, Focus on writing	Theory lecture	Daily exams Monthly exams Quizz
3	2		Pronunciation exercise, Review exercises, assessment	Theory lecture	Daily exams Monthly exams Quizz
4	2		Suffixes Medical terms, Suffixes, Focus on reading, Vocabulary development	Theory lecture	Daily exams Monthly exams Quizz
5	2		Focus grammar, Casereport, Oral com	Theory lecture	Daily exams Monthly exams Quizz

6	2		Pronunciation medical terms Review exercises Self-assessment Pronunciation medical terms Review exercises Self-	Theory lecture	Daily exams Monthly exams Quizz
7	2		Pronunciation medical terms Review exercises Self-assessment Pronunciation medical terms	Theory lecture	Daily exams Monthly exams Quizz
8	2		reconciliation medical terms Review exercises Self-assessment Pronunciation medical terms	Theory lecture	Daily exams Monthly exams Quizz
9	2		Review exercises Self-assessment Focus	Theory lecture	Daily exams Monthly exams Quizz
10	2		focus on writing, Pronunciation of medical terms, Review exercises, Self-assessment.	Theory lecture	Daily exams Monthly exams Quizz
11	2		Body structure Principal body systems, Planes of body, Orientation and directional terms Body positions.	Theory lecture	Daily exams Monthly exams Quizz

12	2		Body cavities, Focus on reading Vocabulary development, Focus on grammar,	Theory lecture	Daily exams Monthly exams Quizz
13	2		Oral communication skills, Focus writing, Revision exercises, Self assessment	Theory lecture	Daily exams Monthly exams Quizz
14	2		Body systems, Focus on reading, Vocabulary development	Theory lecture	Daily exams Monthly exams Quizz
15	2		Focus on grammar, Oral communication skills, Focus on writing,	Theory lecture	Daily exams Monthly exams Quizz

11-Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12-Learning and Teaching Resources

Required textbooks (curricular books, English for Medicine Health Sciences/

any)	first edition by Shehdeh Fareh, PHD, and Inaam F.A Hamadi, MA.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Laboratory instruments 1

2. Course Code:	
3. Semester / Year:	
2024/2025	
4. Description Preparation Date:	
17/12/2024	
5. Available Attendance Forms:	
Students	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Sakar Emad Ali Email: sakaremad08@gmail.com	
8. Course Objectives	
Course Objectives	<p>Understand the principles and theories underlying various laboratory techniques.</p> <p>Gain knowledge of different types of medical laboratories and their functions.</p> <p>Learn about laboratory safety procedures and quality control measures.</p> <p>Acquire knowledge of basic medical terminology and laboratory jargon.</p>
9. Teaching and Learning Strategies	
Strategy	<p>Board Normal</p> <p>Computers</p> <p>Presentation using PowerPoint</p>

10-Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation method
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		Outcomes			
1	2	General introduction	Ordinary Microscope	Lecture	Daily Evaluation
2-3	2	Parts & principle of the microscope. Illumination, Magnification and resolution .Setting up & Applications Care & safety	Light Microscopes	Lecture	Submit Reports
4+5+6+7	2	Dark field microscope Phase Contrast microscope Fluorescent microscope. Parts & principle Setting up & Applications Care & safety.	Types of Light Microscopes	Lecture	Oral exams
8	2	Parts & principle Magnification & resolution , Applications	Electron Microscope	lecture	Discussion on the topic
9+10	2	Parts & principle setting up & Calibration Uses and care	Spectrophotometer	lecture	Daily Evaluation
11	2	Parts & principle of the centrifuge Types & Applications Care and safety	Centrifugation	lecture	Submit Reports

12	2	Principle & Applications Care and safety	Autoclave	lecture	Daily Evaluation
13	2	Types of safety cabinet Principle Applications Maintenance of safety cabinet	Microbiological Safety Cabinet	lecture	Submit Reports
14	2	Types of incubators Principle & Applications Care of incubator	Incubator	lecture	Oral exams
15	2	Types – Parts – Applications – Advantages – Disadvantage	Balance	lecture	Daily evaluation

11-Course Evaluation

- Oral exams.- Daily evaluation.- Quarterly exams.- Final exams

12-Learning and Teaching Resources

Required textbooks (curricular books, if any)	Methodical books
Main references (sources)	Lectures , vocational training and field Visits
Recommended books and references (scientific journals, reports...)	scientific journals, reports
Electronic References, Websites	Websites and scientific seminars