Academic Program Description Form

University Name: Middle Technical University.

Faculty / Institute: Institute of Medical Technology – Al-Mansour.

Scientific Department: pharmacy techniques.

Academic or Professional Program Name: Biochemistry

Final Certificate Name: Technical diploma in pharmacy

Academic System: semester system

Description Preparation Date: 4/3/2024

File Completion Date:

Signature:	**Signature:**
Head of Department Name: **Dr Hayder Merry**	**Scientific Associate Name:** **Hadeel Ahmed Hasan**
Date:	**Date:**

The file is checked by:

Department of Quality Assurance and University Performance:

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the dean

1. Program Vision
Leadership and excellence in the field of technical education and scientific research. and concern to its quality to build a knowledge society.

2. Program Mission
To provide an educational and research environment conducive to education and creativity that will contribute to the preparation of highly qualified graduates, to achieve effective national and international scientific twinning, and to strengthen partnership with the sectors of society and international institutions in the relevant fields.

3. Program Objectives
Preparing qualified technical staff working in the field of pharmacy and pharmaceutical industries under the supervision of the pharmacist and working in the fields of reading Medical prescriptions, preparation and dispensing of medicine -1 He works in the field of medicine under the supervision of a pharmacist or -2 chemist in the preparation of medicines He works in drug stores and dispensaries in laboratories and drug stores, -3 where he is able to carry out all stages of storage, classification and arrangement

4. Program Accreditation
Medical

5. Program external influences
The graduate should be able to gain experience after graduation to work in his field of specialization and to have high confidence and knowledge in his

specialty to evaluate the performance personality by teamwork in his field of specialization

6. Program Structure				
Program Structure	**Number of Courses**	**Credit hours**	**percentage**	**Reviews***
Institution Requirements				
College Requirements		5	100%	
Department Requirements				
Summer Training				
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**
1		biochemistry	2	3

8. Expected Learning Outcomes of the Program	
Knowledge	
A1- Understand the basic principles of general pharmacy specialization in general A2- Understand the scientific principles and basics of pharmacy A3- Learn the basics of drug dispensing, classification and education in the pharmacy A4- Identify the principles and basics of quality control methods during and production of medicines	A1- Understand the principles and basics of general chemistry in general A2- Understand the scientific principles and basics of general chemistry A3- Understand the basic principles of chemical reactions inside the body A4- Identify the principles and basics of metabolic processes that occur in the body
Skills	

B1 - The student learns the basics of preparing medicines B2 - The student learns the laboratory tools and equipment that he deals with B3 - Evaluating the graduate's personality by performing laboratory work B4 - Preparing and dispensing medicines	B1-The student learns the basics of chemistry B2-The student learns the laboratory tools and equipment that he deals with B3-Evaluating the graduate's personality by performing laboratory work B4-Preparing and dispensing medicines
Ethics	
C1- The student should be able to deal with the equipment in the laboratory C2- That the student is qualified to complete his studies in his field of specialization	C1-The graduate should be able to gain experience after graduation C2-The graduate should be able to work in his field of specialization C3-The graduate should be able to have high confidence and knowledge in his specialty C4-The graduate should be able to evaluate the performance personality by teamwork in his field of specialization
	C 1- The graduate should be able to learn the basics of general chemistry C2- The graduate should be able to learn the basics of biochemistry.

9. Teaching and Learning Strategies
- Theoretical and electronic lectures - Labs - Systematic training - Summer training

10. Evaluation Methods

Daily assessment - theoretical electronic written tests - practical tests in the laboratory - final exams - discussion of graduation research

11.Faculty						
Faculty Members						
Academic Rank	**Specialization**		**Special Requirements / Skills (if applicable)**		**Number of the teaching staff**	
	General	**Special**			**Staff**	**Lecturer**
Lecturer		√			1	1

Professional Development
Mentoring new faculty members
Reduces the chances of them becoming unhappy, and develops quality contributors within the organization
Professional Development of faculty members
Scientific and recreational trips- -Participation in scientific debates between students in the specialty - Attending seminars - Participation in the calligraphy and drawing exhibition

12.Acceptance Criterion
Assessment of admission criteria through the central admission through the ministry's plan, according to the average and the type of branch in middle school, and this will be after an interview with the student at the institute

13.The most important sources of information about the program
-Vocabulary approved by the Deans Committee in the scientific specialization - method book -Teaching lectures from scientific sources and the Internet

14.Program Development plan
-Adding new topics to keep pace with the science development by reviewing the latest research published within the specialty -Developing scientific capacity through publishing scientific research within the specialty.

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	
1		biochemistry	basic	√	√	√	√	√	√	√	√	√	√	√	√	

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

Course Description Form

1. Course Name:
Biochemistry
2. Course Code:
3. Semester / Year:
Semester
4. Description Preparation Date:
10-3-2024
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total)
5 hours (2 theoretical + 3 practical) / 5 units
7. Course administrators name (mention all, if more than one name)
Name:Hadeel Ahmed Hasan Email:hadeelahmed@mtu.edu.iq Name: Shahad Mohamed Ali Email:shahad.m.salih1@gmail.com
8. Course Objectives:

Course Objectives	-Enabling students to understand the chemical compounds that enter the structure of the human body. -Defining the theoretical principles of chemical reactions and structures of human body fluids and tissues, methods of creation and metabolic processes that occur within the human body, and a method for hormonal and chemical control

9. Teaching and Learning Strategies

Strategy	- Theoretical and electronic lectures - Labs - Systematic training - Summer training

10.Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or Subject name**	**Learning method**	**Evaluation method**
1			Biochemistry-Define-Importance	Carbohydrates-classification-properties-monosaccharide reaction.	- Online theoretical written exams power point - Practical tests in the lab
2			carbohydrates-Define-Classification-Properties-Monosaccharides-Define-Properties-reactions	Unknown (discussion).	- Online theoretical written exams power point - Practical tests in the lab
3			Disaccharides-Define-Types-Properties-chemical reactions	Disaccharides-reaction.	- Online theoretical

					written exams power point - Practical tests in the lab
4			polysaccharides-Define-Types-Properties-Chemical reactions and Reports Metabolism of carbohydrates	Unknown, discussion-reports.	- Online theoretical written exams power point - Practical tests in the lab
5			Lipids-Define-classification-Fatty acids-classification –properties	Polysaccharides-reaction	- Online theoretical written exams power point - Practical tests in the lab
6			Hydrations-rancidity-iodine number-saponification-metabolism of fat	Unknown, discussion-reports.	- Online theoretical written exams power point - Practical tests in the lab
7			Proteins-define-classification-properties	Lipids-classification-fatty acids-hydrogenation.	- Online theoretical written exams power point

					- Practical tests in the lab
8			Amino acids-define-classification-properties-chemical reaction	Determination of iodine No. and saponification.	- Online theoretical written exams power point - Practical tests in the lab
9			Metabolism of proteins and amino acids	Proteins-classification of amino acids-properties, reaction.	- Online theoretical written exams power point - Practical tests in the lab
10			Nucleic acids-nucleic proteins-reports	Amino acids properties, reaction-testing and reports.	- Online theoretical written exams power point - Practical tests in the lab
11			Enzymes-define-classification-properties-chemical reactions-enzymes inhibitors	Nucleic acid-nucleic proteins-discussion.	- Online theoretical written exams power point - Practical tests in the lab

12			Hormones-define-classification-properties-proteins hormone-functions	Enzymes and inhibitors-discussion.	- Online theoretical written exams power point - Practical tests in the lab
13			Non protein hormones-classification.	Hormones-properties, types, discussion, reports	- Online theoretical written exams power point - Practical tests in the lab
14			Vitamins-Types-properties-vitamin soluble in water	Vitamins-types.	- Online theoretical written exams power point - Practical tests in the lab
15			Vitamins soluble in fat-types-properties	examination	- Online theoretical written exams power point - Practical tests in the lab

11.Course Evaluation

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**-**
Main references (sources)	Google scholar – google search - Wikipedia
Recommended books and references (scientific journals, reports….)	Lieutenant and lectures prepared by the professor after the approval of the sectoral advisory
Electronic References, Websites	