

## Academic program description form

University name: Northern Technology

College/Institute: Technical Institute - Aldour

Scientific Department: Medical Laboratory Technologies

Name of the academic or professional program: Diploma in Laboratory Technology

Name of final certificate: Diploma in Laboratory Technology

Academic system: courses / Curriculum


Description preparation date: 7 / 3 / 2024

Date of filling the file: 7 / 3 / 2024

Signature: 

Scientific Assistant: **A. Prof. Dr. Hanan Shihab Ahmed**

Date:

Signature: 

Head of Department: **L. Dr. Hind Tariq Hamad Ahmed**

Date:

Check the file by:

Quality Assurance and University Performance Division.

Director of the Quality Assurance and University Performance Division: **Assit. L. Haider Ali Mohsen**

Date:

Signature: 



Authentication of the Dean

**A. Prof. Dr. Maha Eltaif Jassim**

### **Vision of program**

The department seeks to prepare technicians specialized in medical tests and medical laboratory management, who are prepared to work in government health departments and benefit from them at the scientific and applied levels.

### **Program message**

1. Preparing specialized technical, scientific and professional cadres within the field of laboratory work who are able to interact and keep pace with the development of scientific research and with a high level of responsibility towards the local and international community by providing medical services within laboratory specialization with all honesty and sincerity.
2. Working to refine the student's scientific and cognitive talents and benefit from them within laboratory specialization through training courses, workshops, and scientific visits to advanced health and educational institutions.

### **Program Goals**

The department aims to graduate professional technical staff who have the ability to work in medical laboratories and perform simple routine laboratory tests and general biochemical examinations within various body fluids, as well as laboratory management and how to deal with and maintain laboratory equipment.

### **Program accreditation**

The department is seeking programmatic accreditation.

### **External influences**

Government and private sector

<b>Program structure</b>				
<b>Program structure</b>	<b>Number of courses</b>	<b>Study unit</b>	<b>Percentage</b>	<b>Notes*</b>
<b>Foundation requirements</b>	8	16	%22.9	Optional - Basic
<b>Institute requirements</b>	5	14	%14.2	Basic
<b>Department requirements</b>	22	64	%62.9	Optional - Basic
<b>Summer training</b>		Satisfied		Basic
<b>Others</b>	-	-	-	-

Program description				
Year / Level	Code of the course	Name of the course	Approved hours	
			Theoretical	Practical
<b>First Level</b>	MLT115	Analytical chemistry	1	2
	MLT113	Histology and cytological techniques	1	2
	MLT114	Medical laboratory instruments	1	2
	MLT118	Histology	1	2
	TID108	Safety in Labs. And workshop	2	-
	MLT117	Basic of nursing	1	2
	NTU102	Computer	1	1
	NTU101	English language	2	-
	NTU100	Human rights and democracy	2	-
	NTU103	Arabic language	2	-
	MLT119	Organic chemistry	1	2
	MLT112	Medical laboratory techniques	1	2
	TID109	Medical terminology	2	-
	MLT120	First aid	2	-
	MLT116	Blood transfusion	1	2
	TID106	Physiology	2	2
	TID110	Anatomy	2	2
	NTU104	Sport	1	1

Program description				
Year / Level	Code of the course	Name of the course	Code of the course	
			Theoretical	Practical
<b>Second Level</b>	MLT208	Biochemistry	1	2
	MLT214	Basic of immunity	1	2
	MLT206	Protozoa	1	2
	MLT210	Basics of bacteriology	1	2
	MLT209	Viruses	1	2
	MLT205	Introduction to hematology	1	2
	NTU204	Ethics	2	-
	TID202	Statistics	2	-
	NTU203	The crimes of the Baath regime in Iraq	2	-
	MLT211	Clinical biochemistry	1	2
	MLT216	Immunity and pathogenesis	1	2
	MLT213	Worms	1	2
	MLT210	Pathogenic bacteria	1	2
	MLT212	Medical mycology	1	2
	MLT217	Cellular blood diseases	1	2
	NTU202	Arabic language	2	-
	MLT215	Research project	2	-

## Expected learning outcomes of the programme

### Knowledge

1. Sufficient knowledge of most of the tests conducted in the laboratory, such as biochemical, immunological, and histological tests, and tests to detect various microorganisms such as bacteria, viruses, and parasites of various types, as well as learning about the physiology and anatomy of various body organs.
2. Correct and safe handling of chemicals, laboratory equipment and laboratory tools used within medical laboratories.
3. Learn safety procedures to avoid risks that may occur during laboratory work, as well as first aid and methods of applying it in emergency situations.
4. Correct and safe handling of various samples received into the medical laboratory to obtain the best results

### Skills

1. Identify the various types of laboratory devices and equipment, how they work, and methods of maintaining them for the purpose of sustaining them for long periods.
2. Learn how to manage medical laboratories in a manner consistent with the accuracy of results and the speed of their completion, which ultimately benefits the patient's health.
3. Identify the methods and mechanisms for collecting various samples and ways to preserve them until specific tests are performed on them.
4. The ability to organize laboratory work and how to distribute tasks among individuals and departments of the medical laboratory.

### Values

1. Enriching the student with the concepts and foundations of medical laboratory management.
2. Analyzing the problems and obstacles facing laboratory work and how to avoid their occurrence as much as possible.
3. Honesty in conducting tests and confirming information about laboratory samples and the safety of laboratory equipment to ensure obtaining accurate results.
4. Humane treatment of special medical cases in a way that preserves their dignity.

### Teaching and learning strategies

1. Explaining the scientific course in detail, using different means of explanation.
2. Seminars focusing on the latest scientific developments related to the course.
3. Field visits to medical institutions for the purpose of examining various disease cases and laboratory methods for diagnosing them.

### Evaluation methods

1. Exams (weekly, monthly, daily, and the end-of-year exam), both theoretical and practical.
2. Providing monthly reports in various academic courses
3. Summer training

### Education Institution

### Faculty members

Academic Degree	Specialization		Special requirements /skills		Faculty members	
	Major	Specialization			Staff	Lecturer
Assistant Professor	Biology	Physiology			1	
Lecturer	Biology	Physiology			2	
Lecturer	Biology	Molecular genetics			1	
Assistant Lecturer	Biology	Physiology			2	

## **Professional development**

### **Orienting new faculty members**

Participation in courses focusing on the integrity of the Arabic language, the nature of administrative work, and specialized courses within the field of laboratory work and the research field, in addition to courses on methods and validity of teaching.

### **Professional development for faculty members**

1. Participation in local and international conferences
2. Participation in applied courses and workshops within the department's specializations

### **Acceptance standard**

Students graduating from middle school are accepted through the central admission system on the basis of:

1. Branch (scientific)
2. Average score

### **The most important sources of information about the program**

1. The website of the university and institute
2. University guide
3. Central Library
4. References and sources for the institute and the department
5. The World Wide Web

### **Program development plan**

1. Cooperation with various local and international universities
2. Updating the curriculum for courses in line with scientific development
3. Cooperation between local universities through postgraduate student's discussions
4. Cooperation with the Ministry of Health departments by supplying medical and technical personnel to teach in the department



## Program skills chart

Learning outcomes required from the program															
Year / Level	Code of course	Name of course	Basic or Optional	Knowledge				Skills				Values			
				1A	2A	3A	4A	1B	2B	3B	4B	1C	2C	3C	4C
First Level	MLT115	Analytical chemistry	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MLT113	Histology and cytological techniques	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MLT114	Medical laboratory instruments	Basic		✓	✓		✓	✓		✓	✓	✓		
	MLT118	Histology	Basic	✓			✓				✓		✓		
	TID108	Safety in Labs. And workshop	Basic		✓	✓	✓			✓	✓	✓			
	MLT117	Basic of nursing	Basic			✓		✓					✓		✓
	NTU102	Computer	Basic						✓			✓	✓		



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				1A	2A	3A	4A	1B	2B	3B	4B	1C	2C	3C	4C	
Second Level	MLT208	Biochemistry	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	MLT214	Basic of immunity	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	MLT206	Protozoa	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	MLT210	Basics of bacteriology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	MLT209	Viruses	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	MLT205	Introduction to hematology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	NTU204	Ethics	Basic										✓	✓	✓	✓
	TID202	Statistics	Basic									✓	✓			

