



**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: Northern Technical University

Faculty/Institute: Technical College of Health and Medicine

Scientific Department: Medical Laboratory Technology

Academic or Professional Program Name: Bachelor in Medical Laboratory Technology

Final Certificate Name: Bachelor in Medical Laboratory Technology

Academic System: Courses

Description Preparation Date: 06/10/2024

File Completion Date: 06/10/2024

Signature:



Head of Department Name: Dr

Hiro M. Obaid

Signature:

Scientific Associate Name:

Dr Abeer A. Alattar

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

Academic Program Description Form

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Description Preparation Date: 06/10/2024

File Completion Date: 06/10/2024

Signature:

Head of Department Name: Dr

Hiro M. Obaid

Date: 20/10/2024

Signature:

Scientific Associate Name:

Dr Abeer A. Alattar

Date: 20/10/2024

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 23/10/2024

Signature:



Muhammad D. HASSAN

Approval of the Dean

1. Program Vision

The Department of Medical Laboratory Technology is one of the basic scientific departments that raises the Iraqi health reality to leadership locally, regionally and internationally in higher education, scientific research and community service in the field of medical analysis, laboratory diagnosis of diseases and all other examinations with high efficiency, technology and accuracy to bear responsibility and contribute effectively to raising the Iraqi health reality and raising the scientific level on modern and advanced foundations that keep pace with advanced global technological progress.

2. Program Mission

Cooperation and solidarity among all cadres and enhancing the spirit of joint work to ensure the comprehensive realization of the vision of the scientific department through scientific follow-up of developments in the fields of laboratory analysis and various specializations, taking into account the renewal of scientific curricula in a manner that keeps pace with the requirements of the labor market and ensuring the continuity of job descriptions for graduates and their finding of job opportunities.

3. Program Objectives

The Medical Laboratories Department aims to:

1. Prepare cadres with technical and practical skills capable of working in the fields of medical laboratories to meet the local need for these cadres.
2. Arm students with the academic scientific background on the types of different diseases, their causes, ways of infection and diagnosis.
3. Arm students with practical and technical skills and accustom them to adopt accuracy, sincerity and honesty in laboratory work, and inform them of the most

important modern techniques used in the field of laboratory diagnostics to keep pace with modern developments.

4. Teach students laboratory management methods and techniques related to data storage and preparing the necessary statistics.

5. Raise the level of graduates scientifically and academically so that they are qualified to find study and work opportunities at the international level.

4. Program Accreditation

Does the program have program accreditation? And from which agency?

No

5. Other external influences

Is there a sponsor for the program?

No

6. Program Structure

| Program Structure | Number of Courses | Credit hours | Percentage | Reviews* |
|--------------------------|-------------------|--------------|------------|----------|
| Institution Requirements | 14 | 28 | | |
| College Requirements | 10 | 27 | | |
| Department Requirements | 34 | 101 | | |
| Summer Training | 2 | | | |
| 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 Year First Semester | NTU100 | Democracy and Human rights | 2 | – |
| | NTU101 | English Language | 2 | – |
| | NTU102 | Computer | 2 | 1 |
| | CHMTK111 | Medical terminology | 2 | – |
| | CHMTK112 | General chemistry | 2 | 3 |
| | CHMTK113 | General biology | 2 | 3 |
| | MLT111 | Lab. Instrumentation | 2 | 2 |
| | MLT1122 | General Histology | 2 | 3 |
| | MLT113 | Human physiology | 2 | 3 |
| Second Semester | | | | |
| First Year Second Semester | NTU103 | Arabic Language | 2 | – |
| | NTU104 | Sports or French Language | 2 | 1 |
| | MLT124 | Biochemistry basics | 2 | 2 |
| | MLT124 | General anatomy | 2 | 3 |
| | MLT126 | Human biology | 2 | 3 |
| | MLT127 | Systematic Histology | 2 | 3 |
| Second Year First Semester | NTU200 | English Language | 2 | – |
| | NTU203 | Crimes of the Ba'ath regime in Iraq | 2 | – |
| | CHMTK211 | Medical psychology | 2 | – |
| | CHMTK212 | Metabolism | 2 | 2 |
| | MLT211 | Molecular Biology | 2 | 3 |
| | MLT212 | Medical Bacteriology | 2 | 3 |
| | MLT213 | Medical Helminthes | 2 | 3 |
| | MLT214 | Lab. Management or Epidemiology | 2 | – |

| Second Semester | | | | |
|--------------------------------|----------|---|---|---|
| Second Year Second Semester | NTU201 | Computer | 1 | 1 |
| | NTU202 | Arabic Language | 2 | – |
| | NTU204 | Professional ethics | 2 | – |
| | CHMTK223 | Biostatistics | 2 | 2 |
| | MLT225 | Medical Microbiology | 2 | 3 |
| | MLT226 | Basic Immunology | 2 | 3 |
| | MLT227 | Metabolic disorders | 2 | 3 |
| | MLT228 | Medical Protozoa | 2 | 3 |
| | MLT229 | Genetic engineering or Stem cell | 2 | 3 |
| First Semester | | | | |
| Third Year First Semester | NTU311 | English Language | 2 | – |
| | CHMTK311 | Laboratory Safety | 2 | 3 |
| | MLT312 | Histopathology | 2 | 3 |
| | MLT313 | Hematology | 2 | 3 |
| | MLT315 | laboratory techniques | 2 | 3 |
| | MLT326 | Medical Mycology | 2 | 3 |
| | MLT327 | Endocrinology & Clinical Enzymology | 2 | 3 |
| Second Semester | | | | |
| Third Year Second Semester | CHMTK322 | Research methods | 2 | – |
| | MLT311 | Clinical Biochemistry | 2 | 3 |
| | MLT314 | Medical Virology | 2 | 2 |
| | MLT328 | Medical Genetics | 2 | 2 |
| | MLT329 | Medical entomology or opportunistic parasites | 2 | 2 |
| First Semester | | | | |
| Fourth Year First Semester | NTU411 | English language | 2 | – |
| | CHMTK412 | Preventive and social medicine or Serology and Vaccines | 2 | |

| | | | | |
|--------------------------------|----------|-----------------------------------|---|---|
| | MLT414 | Diagnostic Parasitology | 2 | 3 |
| | MLT415 | Biochemical Diagnostic Techniques | 2 | 3 |
| | MLT416 | Antibiotics | 2 | 3 |
| | MLT427 | Nanotechnology or pharmlogic | 2 | 3 |
| Second Semester | | | | |
| Fourth Year Second Semester | NTU400 | Scientific research methodology | 2 | – |
| | MLT413 | Diagnostic Bacteriology | 2 | 3 |
| | MLT428 | Clinical Immunology | 2 | 3 |
| | MLT429 | Blood transfusion | 2 | 3 |
| | MLT4210 | Advanced Clinical chemistry | 2 | 3 |
| | MLT4211 | Toxicology | 2 | 3 |
| | CHMTK422 | Graduation Project | | – |

8. Expected learning outcomes of the program

Knowledge

| | |
|-------------------|---|
| Learning Outcomes | <ol style="list-style-type: none"> 1. Teaching the student the topics related to medical laboratory specialties 2. Preparing and performing various methods used in medical laboratories 3. Training the student on how to obtain samples from reviewers for laboratory use 4. Interpreting the results obtained from the analysis and the extent to which they match the diagnosis of the case |
|-------------------|---|

Skills

| | |
|-------------------|--|
| Learning Outcomes | –Skill objectives of the program: <ol style="list-style-type: none"> 1. Use of equipment used in medical laboratories 2. Training on the use of laboratory devices 3. Implement various laboratory methods used independently 4. Collect samples from patients in a professional and scientific manner |
|-------------------|--|

Ethics

| | |
|-------------------|--|
| Learning Outcomes | –Emotional and value-based objectives: <ol style="list-style-type: none"> 1. Analyzing laboratory results 2. Finding the relationship between laboratory results and the |
|-------------------|--|

| | |
|--|---|
| | patient's condition 3. Writing laboratory reports in a clear and scientific manner 4. Continuously developing laboratory work |
|--|---|

9. Teaching and Learning Strategies

There are many teaching and learning methods used in the College of Medical Laboratory Technology, and the most important of these methods are: –
 (theoretical and practical lectures, discussion and dialogues, summer training for relevant government and private hospitals such as training in laboratories, discussion groups and scientific seminars on specific topics, theoretical and practical student research, office activities.

10. Evaluation methods

- Seminars.
- 2– Scientific discussion, oral dialogue, theoretical and practical semester and final exams.
- 3– Writing and submitting reports and taking notes on the technical expertise gained during field visits
- 4– Evaluation of practical skills in laboratories and in all specializations
- 5– Quick tests (quizzes)
- 6– Semester and annual exams

11. Faculty

Faculty Members

| Academic Rank | Specialization | | Special Requirements/Skills (if applicable) | Number of the teaching staff | |
|---------------|----------------|---------|---|------------------------------|----------|
| | General | Special | | Staff | Lecturer |
| | | | | | |

| | | | | | | |
|---------------------|--|---|--|--|-----------|--|
| Professor | | 2 | | | Permanent | |
| Assistant Professor | | 2 | | | Permanent | |
| Lecturer | | 4 | | | Permanent | |
| Assistant Lecturer | | 8 | | | Permanent | |

Professional Development

Mentoring new faculty members

- 1- Through seminars, workshops and conference attendance
- 2- Teaching methods course
- 3- English and Arabic language proficiency
- 4- Teaching skills and strategies development course (Presentation)

Professional development of faculty members

- 1- Attending lectures for postgraduate studies
- 2- Participating in local and international courses
- 3- Participating in local and international scientific conferences
- 4- Conducting and publishing scientific research in reputable journals
- 5- Delivering periodic seminars in his areas of specialization

12. Acceptance Criterion

Specialization: Medical Laboratory Techniques

- Level: Bachelor's
- Duration of Study: 4 years
- Language: English
- The department receives graduates of preparatory studies in its scientific branches (biological and applied) and the top ten students from the Medical Institute (according to the instructions of the Ministry of Education and Scientific Research)

13. The most important sources of information about the program

1. Curriculum books in the specialization
2. Curricula of the Northern Technical College Authority
3. Websites of Iraqi and foreign universities.
4. Scientific libraries.
5. Workshops held by the Ministry of Higher Education in addition to the Ministry's standards.

14. Program Development Plan

The program is reviewed periodically by forming internal and external review committees, as well as designing a questionnaire to obtain the opinion of students and another to obtain the opinion of beneficiaries of the program's community service and analyzing the results of those questionnaires, as well as designing a model to evaluate the examination paper, designing a model for academic guidance for the program's study groups, in addition to analyzing student results at the end of each academic year, and analyzing the numbers of those enrolled in the program in the last five years. A plan has been developed to develop the program after studying the observations of the internal review and external review of the program, and student observations by analyzing the results of student questionnaires for courses and academic guidance records and analyzing the data of the social service questionnaire and examination paper evaluation reports for all program courses.

| 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 |
| First Year | NTU100 | Democracy and Human rights | Basic | √ | √ | | √ | | √ | √ | | √ | √ | | √ |
| | NTU101 | English Language | Basic | √ | √ | | | | √ | √ | | √ | √ | | |
| | NTU102 | Computer | Basic | √ | √ | | | | √ | √ | | √ | √ | | |
| | CHMTK111 | Medical Terminology | Basic | √ | √ | | | | √ | √ | | √ | √ | | |
| | CHMTK112 | General Chemistry | Basic | √ | √ | √ | | | √ | √ | | √ | √ | | |
| | CHMTK113 | General Biology | Basic | √ | √ | √ | | | √ | | | √ | | | |
| | MLT111 | Lab. Instrumentation | Basic | √ | √ | √ | | | √ | | √ | √ | √ | | |
| | MLT112 | General Histology | Basic | √ | | √ | | | | √ | √ | | √ | √ | |

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|-------------------|----------|----------------------------------|----------|---|---|---|---|---|---|---|---|---|---|---|---|
| | MLT213 | Medical Helminthes | Basic | √ | √ | √ | | √ | | | √ | √ | | √ | √ |
| | MLT214 | Lab. Management or Epidemiology | Optional | √ | √ | √ | √ | | | | √ | | √ | √ | |
| | NTU201 | Computer | Basic | √ | | √ | | √ | | √ | | √ | | √ | |
| | NTU202 | Arabic Language | Basic | √ | √ | | √ | | √ | | √ | | √ | | √ |
| | NTU204C | Professional ethics | Basic | √ | √ | | √ | | √ | | √ | | √ | √ | √ |
| | CHTMK233 | Biostatistics | Basic | √ | √ | | | √ | | √ | √ | √ | √ | √ | |
| | MLT225 | Medical Microbiology | Basic | √ | √ | | √ | √ | | √ | | √ | | √ | √ |
| | MLT226 | Basic Immunology | Basic | √ | √ | | √ | | √ | √ | | √ | | √ | |
| | MLT227 | Metabolic disorders | Basic | | √ | √ | | √ | √ | | √ | √ | √ | | √ |
| | MLT228 | Medical Protozoa | Basic | | √ | √ | | √ | √ | | √ | √ | √ | | √ |
| | MLT229 | Genetic engineering or Stem cell | Optional | | √ | | √ | √ | | √ | √ | | | √ | √ |
| | | | | | | | | | | | | | | | |
| Third Year | NTU311 | English Language | Basic | √ | | √ | √ | | √ | √ | √ | | √ | √ | |
| | CHMTK311 | Laboratory Safety | Basic | | √ | | √ | | √ | √ | | √ | √ | | √ |
| | MLT312 | Histopathology | Basic | √ | | √ | | √ | | √ | | √ | √ | √ | |

| | | | | | | | | | | | | | | | |
|--------------------|----------|---|----------|---|---|---|---|---|---|---|---|---|---|---|---|
| | MLT313 | Hematology | Basic | √ | √ | | √ | | | √ | √ | | √ | √ | √ |
| | MLT315 | laboratory techniques | Basic | √ | | √ | √ | | √ | | √ | | √ | √ | |
| | MLT326 | Medical Mycology | Basic | | √ | √ | | √ | | | √ | √ | | √ | √ |
| | MLT327 | Endocrinology & Clinical Enzymology | Basic | √ | | | √ | √ | | √ | | | √ | √ | |
| | CHMTK322 | Research methods | Basic | √ | | √ | | √ | | √ | | √ | | √ | |
| | MLT311 | Clinical Biochemistry | Basic | √ | √ | | | | √ | | √ | | √ | √ | √ |
| | MLT314 | Medical Virology | Basic | | √ | √ | | √ | | | √ | | √ | | √ |
| | MLT328 | Medical Genetics | Basic | √ | √ | √ | | √ | | | √ | | √ | √ | |
| | MLT329 | Medical entomology or opportunistic parasites | Optional | √ | | √ | √ | | √ | | √ | √ | | √ | √ |
| | | | | | | | | | | | | | | | |
| Fourth Year | NTU411 | English Language | Basic | √ | √ | | √ | | √ | √ | | √ | √ | | √ |
| | CHMTK412 | Preventive and social medicine or Serology and Vaccines | Optional | √ | √ | | √ | √ | | √ | √ | | | √ | √ |
| | MLT414 | Diagnostic Parasitology | Basic | √ | | √ | √ | | √ | √ | | √ | √ | | √ |

| | | | | | | | | | | | | | | |
|----------|-----------------------------------|----------|---|---|---|---|---|---|---|---|---|---|---|---|
| MLT415 | Biochemical Diagnostic Techniques | Basic | √ | | √ | √ | | √ | | √ | √ | √ | | √ |
| MLT416 | Antibiotics | Basic | √ | √ | | | √ | | √ | √ | | √ | | √ |
| MLT427 | Nanotechnology or pharmlogic | Optional | √ | | √ | √ | | √ | | √ | | √ | √ | |
| NTU400 | Scientific research methodology | Basic | | √ | √ | | √ | | √ | | √ | √ | | √ |
| MLT413 | Diagnostic Bacteriology | Basic | √ | | √ | √ | | √ | √ | | √ | √ | | √ |
| MLT428 | Clinical Immunology | Basic | √ | √ | √ | | | √ | | √ | √ | | √ | |
| MLT429 | Blood transfusion | Basic | √ | √ | | √ | √ | | √ | √ | | √ | √ | |
| MLT4210 | Advanced Clinical chemistry | Basic | √ | | √ | | √ | √ | | | √ | | | √ |
| MLT4211 | Toxicology | Basic | √ | | √ | | √ | | √ | √ | | √ | | √ |
| CHMTK422 | Graduation Project | Basic | | √ | √ | √ | | √ | | √ | √ | | √ | √ |

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

