MERCURY

# Medical Laboratories (Microbiology, Hematology and Biochemistry)

22 – 26 August 2027
Cairo (Egypt)



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Istanbul - Türkiye: +90 539 599 1206
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**Ref:** 15333_304516 **Date:** 22 – 26 August 2027 **Location:** Cairo (Egypt) **Fees:** 3500 Euro

## Introduction:

This medical laboratory technology course is the first part of an elementary introduction to clinical medical laboratory operations. It assumes the learner has little or no medical practice or clinical laboratory science background. It is ideal for those who desire an introduction to the operation and function of the laboratory and the qualifications and mindset of the professionals who staff it.

The medical laboratory technology program delves into the contrasting dynamics between anatomical pathology and general clinical laboratories, delineating the various personnel contributions. It underscores the significance of departments within a clinical laboratory and meticulously outlines their diverse functionalities.

Medical laboratories are not mere bystanders in healthcare; they stand at the crossroads of biology and chemistry, underpinning critical medical deliberations. Indeed, it is estimated that 60%- 70% of decisions concerning patient diagnosis, treatment, hospitalization, and recovery hinge upon the results churned out by the tireless efforts of medical laboratory scientists.

## Course Objectives:

At the end of this medical laboratory technology course, participants will be able to:

- Contrast anatomical pathology laboratories' operational and functional aspects against those of clinical laboratories.
- Recognize the myriad clinical laboratory personnel and expound on their roles within the laboratory environment.
- Catalog the quintessential departments of a clinical laboratory and articulate their responsibilities.
- Differentiate among the various locales that facilitate laboratory testing.

## Targeted Groups:

- Individuals staffing clinical laboratories, where patient samples such as blood and body fluids are processed, analyzed, and relayed.
- Prospective students inquiring about laboratory roles that necessitate a 2-year associate degree.
- Aspiring professionals are curious about roles that specialize in procuring blood samples.

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## Targeted Competencies:

By the end of this medical laboratory technology course, target competencies will be able to:

- Proficiency in conducting basic lab tests.
- Understand laboratory safety protocols.
- Competence in handling and analyzing specimens.
- Skill in performing phlebotomy procedures.
- Ability to interpret and report laboratory findings accurately.
- Know quality assurance practices in laboratory settings.
- Proficiency in using laboratory equipment and instruments.
- Familiarity with biochemistry and immunology concepts relevant to diagnostics.
- Ability to conduct urinalysis and blood bank procedures.
- Competence in microbiological techniques and procedures.

## Medical Laboratory Specialist and Training:

A Medical Laboratory Specialist is a consummate professional who plays a pivotal role in healthcare. They often work behind the scenes to perform vital diagnostic tests that inform patient care decisions. The road to becoming such a specialist usually includes comprehensive training in a medical laboratory technology course, where students learn to navigate the complex labyrinth of clinical laboratory work.

What is a medical laboratory technology course? It is an extensive program that equips students with the necessary skills and knowledge to perform laboratory tests accurately and efficiently. These medical laboratory training programs are indispensable in fostering competent practitioners who will uphold the essential standards of laboratory medicine.

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## Course Content:

### Unit 1: Introduction to the Medical Laboratory:

- Overview of medical laboratory science.
- Role and importance of medical laboratories.
- Safety protocols and procedures.

### Unit 2: The Medical Laboratory Basics:

- Basic lab skills.
- Basic immunology concepts.
- Hematology.
- Biochemistry.
- Psychology.
- Sociology.
- Biochemistry.

### Unit 3: Overview of the Clinical Laboratory:

- Phlebotomy techniques.
- Quality assurance and lab math.
- Urinalysis procedures.
- General anatomy and physiology.
- Blood bank procedures.
- Coagulation studies.
- Microbiology fundamentals.

### Unit 4: Clinical Chemistry:

- Advanced hematology techniques.
- Clinical microbiology.
- Advanced microbiology studies.

### Unit 5: Molecular Diagnostics:

- Introduction to molecular diagnostics.
- Techniques in molecular diagnostics.
- Applications in disease diagnosis.

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## Unit 6: Immunology and Serology:

- Fundamentals of immunology.
- Serology principles.
- Diagnostic applications in immunology and serology.