



## LABORATORY EQUIPMENT, INSTRUMENTS AND SAFETY



### COURSE OVERVIEW

This comprehensive training course is designed to provide laboratory personnel with the essential knowledge and practical skills needed to safely operate, maintain, and troubleshoot laboratory equipment and instruments. It also emphasizes the importance of laboratory safety standards, risk assessment, proper chemical handling, emergency response, and compliance with regulatory requirements. Participants will learn through theoretical sessions, hands-on demonstrations, and case studies to ensure operational efficiency and a safe working environment.

### DATES, VENUES AND FEES



28 September – 02 October 2025  
- Dubai  
(5 Days)

Fees

US\$ 4500

**Note:** Fee is per participant + 5% VAT (if applicable).

Groups from the same company can enjoy a **discounted** price.

### WHO SHOULD ATTEND?

This course is appropriate for a wide range of professionals but not limited to:

- Laboratory technicians and analysts
- Quality control/assurance personnel
- Research scientists and lab supervisors
- Health and safety officers
- Maintenance and calibration personnel
- New laboratory staff or anyone working in a laboratory environment

### CONTACT US NOW

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## ACCREDITATION



**This training course is certified by CPD.**

The CPD Certification Service is the leading independent CPD accreditation institution operating across industry sectors to complement the Continuing Professional Development policies of professional institutes and academic bodies. The CPD Certification Service provides support, advice, and recognised independent CPD accreditation compatible with global CPD principles. CPD is the term used to describe the learning activities professionals engage in to develop and enhance their abilities and keep skills and knowledge up to date. CPD Units are only awarded to programmes after each programme is scrutinised to ensure integrity and quality according to CPD standards and benchmarks.

## COURSE CERTIFICATE

**MSTC** certificate will be issued to all attendees completing a minimum of 80% of the total tuition hours of the course.

**CPD** internationally recognized certificate will be issued for all participants who will meet the course requirements. CPD certificates will be issued within a month of the successful completion of the course.

## TRAINING METHODOLOGY

- Expert-led sessions with dynamic visual aids
- Comprehensive course manual to support practical application and reinforcement
- Interactive discussions addressing participants' real-world projects and challenges
- Insightful case studies and proven best practices to enhance learning

## LEARNING OBJECTIVES

By the end of this course, participants should be able to:

- Understand the functions and correct usage of common laboratory equipment and instruments.
- Apply maintenance and calibration procedures to ensure equipment accuracy and longevity.
- Identify and control potential hazards associated with laboratory operations.
- Implement standard safety protocols, including PPE usage and emergency procedures.
- Handle, store, and dispose of laboratory chemicals safely and responsibly.
- Comply with local and international laboratory safety standards and regulations.

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## COURSE OUTLINE

### DAY 1

#### Introduction to Laboratory Equipment and Environment

- Pre test
- Overview of laboratory types and functions
- Classification of laboratory equipment and instruments
- Laboratory layout and workflow design
- Basic laboratory terminologies and operating principles
- Good Laboratory Practices (GLP)

### DAY 2

#### Operation and Maintenance of Laboratory Instruments

- Introduction to key laboratory instruments:
  - Balances, spectrophotometers, centrifuges, pH meters, incubators, autoclaves
- Proper operating procedures
- Calibration and maintenance requirements
- Troubleshooting common equipment problems
- Recordkeeping and equipment logs

### DAY 3

#### Laboratory Safety Management

- Introduction to laboratory hazards (chemical, biological, physical, radiological)
- Risk assessment and hazard control
- Personal Protective Equipment (PPE) selection and use
- Laboratory signage and safety communication
- Fire safety and prevention in the lab

### DAY 4

#### Chemical Handling and Emergency Response

- Safe storage and labeling of chemicals (GHS, MSDS/SDS)
- Safe handling and disposal of hazardous materials
- Chemical spill response procedures
- First aid and emergency equipment (eyewash stations, fire extinguishers)
- Emergency preparedness: evacuation plans and drills

### DAY 5

#### Regulatory Compliance and Practical Workshop

- Overview of local and international laboratory safety standards (OSHA, ISO, WHO, etc.)
- Auditing and inspection readiness
- Case studies: Laboratory accidents and prevention strategies
- Course review
- Post test

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