



Advanced Clinical Laboratory Biosafety and Infection Prevention Course

16 – 20 May 2027
Muscat

Advanced Clinical Laboratory Biosafety and Infection Prevention Course

Ref: 1486_209740 **Date:** 16 – 20 May 2027 **Location:** Muscat **Fees:** 5700 Euro

Overview

Advanced Clinical Laboratory Biosafety and Infection Prevention Course is a one-week advanced course for laboratory managers, biomedical scientists, microbiology teams, biosafety personnel, infection prevention staff, and quality professionals, who leave with a Laboratory Biosafety Control Pack. The course connects laboratory biological risk assessment, specimen reception and transport controls, biological safety cabinet work practices, and laboratory decontamination and waste management to observable work steps. Agile Leaders Training Center presents clinical laboratory biosafety and infection prevention across diagnostic workflows.

Who Should Attend

- Teams responsible for clinical and diagnostic laboratory operations
- Personnel responsible for microbiology and specimen-processing controls
- Functions responsible for biosafety and occupational exposure prevention
- Teams responsible for infection prevention and laboratory quality
- Managers responsible for laboratory equipment, facilities, and waste interfaces

The course assumes practical responsibility for laboratory processes or biosafety controls and excludes clinical diagnosis, treatment authority, facility certification, and regulatory approval.

Departments and Industries

The course supports laboratories and related functions that receive, process, store, transfer, or dispose of biological material.

- Hospital and independent diagnostic laboratories
- Public health and reference laboratory services
- Biomedical research and teaching laboratories
- Blood, tissue, and biobank operations
- Occupational safety, quality, and facilities functions

Learning Objectives

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



- Apply a laboratory biological risk assessment to tasks and exposure routes
- Analyze specimen reception, transport, processing, and storage controls
- Evaluate biological safety cabinet use and aerosol containment
- Build sharps, spill, exposure, and incident-response arrangements
- Use validated decontamination and waste-segregation controls
- Prioritize audit findings and corrective biosafety actions

Course Agenda

Day 1: Laboratory Risk Assessment and Control Selection

- Laboratory Activity and Exposure Route Map
- Biological Risk Assessment Information Sheet
- Risk Evaluation and Control Strategy Matrix
- Good Microbiological Practice Observation Guide
- Risk-Control Review and Change Trigger Log

Day 2: Specimen Pathways and Routine Precautions

- Specimen Reception Acceptance Checklist
- Primary and Secondary Container Inspection Method
- Internal Specimen Transport Route Review
- Sample Processing Splash and Aerosol Control Card
- Specimen Storage and Handover Status Record

Day 3: Primary Containment and Exposure Prevention

- Biological Safety Cabinet Task Selection Guide
- Cabinet Setup and Airflow Protection Checklist
- Centrifuge and Aerosol-Generating Procedure Review
- Sharps Elimination and Handling Decision Tool
- Personal Protective Equipment Task Matrix

Day 4: Decontamination, Incidents, and Assurance

- Surface and Equipment Decontamination Plan
- Disinfectant Suitability and Contact Control Record
- Biological Waste Segregation and Transfer Map
- Spill and Occupational Exposure Response Card
- Laboratory Biosafety Audit and Corrective Action Tracker



Day 5: Laboratory Biosafety Practice and Integration

- Suggested Exercise: Task-Based Risk Assessment
- Suggested Exercise: Specimen Route and Container Inspection
- Suggested Exercise: Cabinet and Aerosol Control Observation
- Suggested Exercise: Spill, Sharps, and Exposure Decisions
- Capstone Exercise: Laboratory Biosafety Control Pack

Practical Exercises

The course uses suggested activities with fictional clinical, microbiology, research, and specimen-referral scenarios.

- Suggested activity: map a laboratory task, exposure routes, risk factors, and proportionate controls.
- Suggested activity: inspect a specimen route, container interfaces, processing steps, and storage handovers.
- Suggested activity: review cabinet setup, aerosol-generating work, sharps decisions, and protective equipment.
- Suggested activity: coordinate spill response, decontamination, waste transfer, reporting, and corrective action.

FAQs

Who should attend advanced clinical laboratory biosafety training, and what does it assume?

Laboratory operations, microbiology, biosafety, infection prevention, quality, safety, equipment, and facilities personnel should attend; the course assumes practical responsibility for laboratory work or controls.

How does clinical laboratory biosafety differ from general healthcare infection prevention?

Clinical laboratory biosafety concentrates on specimen pathways, concentrated biological material, aerosol-generating procedures, primary containment, sharps, decontamination, waste, and occupational exposure within laboratory processes.

How is laboratory biological risk assessment applied to a task?

Teams gather task and agent information, identify exposure routes, evaluate risk, select proportionate controls, document responsibilities, and review the assessment when methods, equipment, materials, personnel, or incidents change.



What makes biological safety cabinet work practices reliable?

Reliable practice uses suitable task selection, verified operating status, unobstructed airflow, organized clean-to-contaminated movement, limited rapid motion, correct material transfer, surface decontamination, and escalation of alarms or failures.

How should laboratory spills and exposure incidents be managed?

Management begins by stopping unsafe work, restricting access, following the task-specific response procedure, obtaining appropriate occupational support, documenting the event, evaluating causes, and tracking corrective controls.

Conclusion

Participants leave with a Laboratory Biosafety Control Pack containing risk tools, specimen-pathway checks, cabinet observations, exposure decisions, decontamination records, waste maps, and corrective-action tracking. The pack makes controls visible at each laboratory interface. It helps teams align task risk, containment, work practice, incident response, and assurance.