

# MICROBIOLOGY PRACTICAL COURSE (WATER AND FOOD ANALYSIS)



## Aim of Course

To provide a practical approach where training will be given in test methods used for the analysis of water and food samples. The course will include 80% practical aspects and 20% theoretical aspects. All practical aspects will include the requirements for laboratory accreditation (ISO 17025:2005) by the South African National Accreditation System (SANAS).

Each attendee must bring his/her own laboratory coat.

## Course Overview

- Laboratory accreditation
- Laboratory safety
- Quality assurance and factors affecting results
- Preparation of solutions, culture media (selective and non-selective)
- Sterilization of media
- Quality control and storage of media
- Use, maintenance and verification of reference cultures
- Calibration, maintenance and verification of equipment
- Use and interpretation of calibration certificates
- Preparation of samples (food and water), serial dilutions
- Membrane filtration technique (water) for Total Coliforms, Faecal Coliforms and *E. coli*
- Pour and spread plate techniques (food and water) – Total Plate Count
- Method quality control procedures
- Incubation
- Counting of bacterial colonies, calculation and recording of results (raw data)
- Confirmation techniques
- Documentation of information obtained during analysis and traceability requirements
- Reporting, interpretation and discussion of results
- Precision and control charts for microbiological results
- Proficiency testing: Use, evaluation, reporting and control charts

## Who should attend?

- Technicians, analysts, assistants working in water and food microbiology laboratories.
- Personnel from Municipalities, Government Departments, Water Boards, Water Bottlers who require knowledge on practical techniques for microbiological analysis of water samples as well as interpretation of results.
- Quality Control/Assurance personnel.
- Laboratories interested in obtaining accreditation.

## Course Duration

5 Days

## Evaluation

In order to successfully complete this course, and obtain a certificate, attendees are required to write and pass an examination, which is written two weeks after the course.

The examination will be written approximately two weeks after the completion of the course.

National Laboratory Association  
South Africa

PO Box 298 • Persequor Park • 0020  
1 De Havilland Crescent • Persequor  
Technopark • Pretoria • South Africa

Tel: +27(0)12 349 1500 • Fax: +27(0)12 349 1501

[www.nla.org.za](http://www.nla.org.za)