



Health, Safety and Environment

Techniques of Laboratory Testing and Food Inspection

Course Introduction

Laboratory food

Laboratory food testing or food safety inspection is the process of ensuring food safety and quality in all aspects, including medical, through random sampling or specific quantities of food at manufacturing, distribution, or storage facilities. It involves specialized laboratories and control mechanisms to ensure compliance with standards and specifications. The random samples are taken using various methods to determine their quality according to several systems, including visual, chemical, microbiological tests, and others.

Laboratory tests are also conducted to check for genetically modified foods, which are linked to numerous diseases, especially cancers. These tests also consider issues related to experimentation, potential contamination, and secondary effects, as well as various standards that affect food quality, including environmental, industrial, health, consumer, and quality standards.

Target Audience

- Production managers in food institutions.
- Quality control employees.
- Individuals involved in preparing reports on food product quality.
- Public health and community health workers.

Learning Objectives

- Understand the elements of laboratory testing and food inspection and sampling methods.
- Identify the types of laboratory tests according to the type and nature of food and international standards.

- Learn about the tools used in various laboratory tests.
- Recognize the risks associated with poor food quality and the risk factors in the spread of foodborne diseases and epidemics.
- Understand the long-term health impacts of low-quality processed foods on human health and the risks of certain materials used in their production.

Course Outline

• DAY 01

Introduction to Laboratory Testing and Food Inspection

- Overview of food safety and quality assurance
- The importance of laboratory testing in food safety

Principles of Laboratory Testing

- Types of laboratory tests (microbiological, chemical, physical)
- Sampling techniques and protocols
- Calibration and maintenance of laboratory equipment

• Day 02

Basic Steps in Food Inspection

- Collecting samples
- Processing samples
- Analyzing and detecting samples
- Recording and processing test results

Microbiological Testing Techniques

- Methods for detecting pathogens (e.g., Salmonella, E. coli)
- Interpreting microbiological test results

• Day 03

Chemical Testing Techniques

- Analyzing food additives, preservatives, and contaminants
- Detecting allergens and toxins
- Understanding applications of chromatography and spectroscopy

Physical Testing Techniques

- Evaluating food texture, color, and appearance
- Techniques for measuring pH, moisture content, and viscosity

• Day 04

Food Inspection Protocols

- Conducting effective food inspections
- Understanding hazard analysis and critical control points (HACCP)
- Documenting inspection results and report preparation

Regulatory Standards and Compliance

- Overview of food safety regulations (e.g., FDA, USDA, ISO standards)
- Understanding good manufacturing practices (GMP)
- Compliance with local and international food safety laws

• Day 05

Emerging Trends in Food Safety

- Innovations in food testing technologies
- The role of technology in enhancing food inspection
- Challenges and future opportunities in food safety

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
May 19, 2025	May 23, 2025	5 days	5950.00 \$	Switzerland - Zurich

FROM	TO	DURATION	FEEs	LOCATION
Aug. 17, 2025	Aug. 21, 2025	5 days	5250.00 \$	KSA - Jeddah
Oct. 27, 2025	Oct. 31, 2025	5 days	5250.00 \$	UAE - Dubai