



# Microbiology for Non-Microbiologists

**Course Level**  
**Supplementary**

**Programme Coordinator**  
**Lulanie Swanepoel**

**Duration**  
**5 Modules**

Swift Silliker (Pty) Ltd t/a Mérieux NutriSciences is accredited with FoodBev SETA: Accreditation number: 587/00077/0610



## Overview and Objectives

### Course Overview

Microorganisms have a considerable impact on the quality and safety of food products.

It is important that anyone involved in food processing, handling, distribution, product development and catering (with no formal training in microbiology) understands the interactions and importance of the various forces involved. Contamination by microorganisms may arise from various sources such as raw materials or the processing environment (which includes food-contact surfaces, the air, people and pests). These potential contamination sources need to be controlled to prevent spoilage and to ensure safe products.

### Course Objectives

Delegates will learn the basics of food microbiology in order to:

- Understand basic terminology
- Plan and implement microbiological monitoring programmes
- Give guidance on microbiological problem-solving investigations
- Understand food pathogens and their relation to HACCP
- Understand and interpret microbiological results



## Entry Level Requirements

- To ensure the value of the course to your company, delegates must be comfortable communicating in English and need suitable reading and writing skills.
- A certificate of completion and digital badge will be issued once the course has been successfully completed.



## Who Should Attend

- Middle management and supervisors.
- This programme is a pre-requisite for the course: HACCP - A Practical Approach.



## Outline

### Module 1: Introduction to Microbiology

- Definition
- Size Comparison (VIDEO)
- History of Microbiology

### Module 2: Microorganisms

- Prokaryotes and Eukaryotes
- Viruses, Prions and Protozoa
- Bacteria
- The Gram Stain
- Oxygen Requirements for Microbial Growth
- Catalase, Oxidase and API Tests
- Multiplication
- Grouping Bacteria

### Module 3: Bacteria in Food (1)

- Factors affecting the Growth of Bacteria
- The Growth Curve

### Module 4: Bacteria in Food (2)

- Two Rules
- Destroying Process 1 - Heat Treatment
- Destroying Process 2 - Irradiation
- Filtration
- Inhibitory Processes
- Spoilage Bacteria
- Spoilage Moulds
- Spoilage Yeast
- Pathogenic and Spoilage Organisms

### Module 5: Sampling and Testing

- Sampling Techniques
- Sample Processing
- Plate Count
- Results
- Minimising and Control of Microorganisms



## Language

Presented in English.

## Contact us:

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## Benefits of MXNS Online Training

### Independence and Flexibility

This course is facilitated via an online Learner Management System (LMS) and follows a 'learn-at-your-own-pace' approach, whereby the student has the freedom to work through the content in their own time - from anywhere in the world.

### Variety

The content of this course is made up of course notes, images, infographics and video - in order to provide diversity in the learning material and to allow for exposition of more nuanced topics and/or practical demonstration, where required.



## Assessment Method

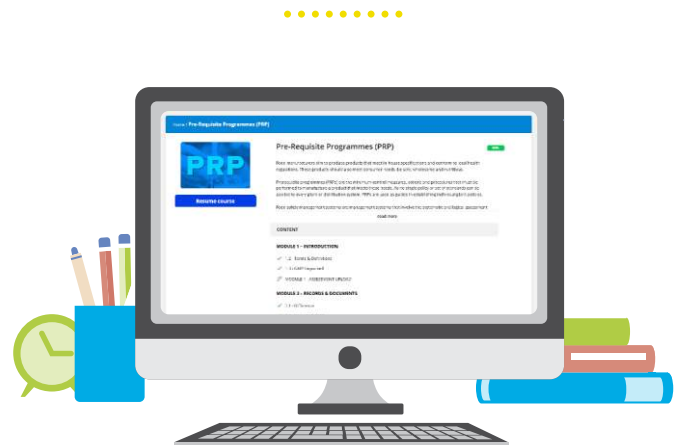
Each module is followed by an assessment which is uploaded and graded by our Technical Specialists, with one final summative assessment taking place at the conclusion of the course.

## Online Assistance

Our Technical Specialists are an email away and are available to assist with any content for which you may require further clarification.

## Learning Outcomes

At the conclusion of this course, you will receive a certificate of completion, as well as a digital badge to make use of on your resumé, LinkedIn profile, etc.



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