

# **Joseph Musau Kioko**

Industrial Microbiology and Biotechnology

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P.O.BOX 102-90102

## **Professional Skills**

- Research methodologies
- Research protocol and best practices
- Laboratory maintenance
- Molecular Biology techniques
- Microbiological techniques
- DNA extraction
- Communication skills

## **Languages**

- English
- Swahili

## **Referees**

### **Dr Charles Matoka**

Senior Lecturer,  
Technical University of Mombasa,  
Pure and Applied Science Department

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### **Christine Migwi**

Laboratory Technician,  
Kenya Marine and Fisheries Research  
Institute

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## **Professional Summary**

I am a specialist in microbiology and biotechnology. I have been trained in research laboratories, preventive measures against laboratory infections, quality control analyses, clinical microbiology (immunology), food/dairy microbiology, environmental microbiology, DNA extraction, fermentation technology, sample collection techniques, and analytical techniques.

In my recent industry experience, I was involved in a variety of laboratory processes, including DNA extraction from bacterial culture using the CTAB method. This involved isolating, purifying, and extracting DNA. I also gained experience in Gram staining, quality control measures for microorganisms (analysis of water and food products), sample collection, preservation, and transportation, and evaluation of aflatoxin contaminants in maize (using the ELISA test for aflatoxin analysis). I also practiced using high-performance liquid chromatography in quantitative analysis and antibiotic susceptibility testing, which involved the disc diffusion method.

I am a friendly and reliable person who is committed to high performance. I use my skills and abilities to deliver results responsibly and effectively. I am also proactive in identifying and solving problems, and I am always looking for new ways to improve. I believe in continuous learning and development, and I am eager to take on new challenges. I am looking for an environment where I can grow and develop my skills in a dynamic and supportive environment.

## **Education**

### **September 2018 - December 2022**

Technical University of Mombasa (TUM)  
Diploma in Industrial Microbiology and  
Biotechnology.

### **December 2017**

St. Stephen Musaalani Secondary School  
Kenya Certificate of Secondary Education (KCSE)

# Work Experience

## January,2023

Kenya Marine and Fisheries Research Institute (KMFRI)

Role: Microbiology Laboratory Assistant

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### Experience highlights

- Practiced DNA extraction techniques and accomplished DNA extraction projects using the CTAB method.
- Accomplished antibiotic sensitivity testing using sponges and gentamicin.
- Implemented serial dilution to calculate concentration of microorganism in water
- Sampled water and sediment matrix using laboratory water analysis methods
- Used titration method to determine total alkalinity in water.
- Supported in water distillation for laboratory work.
- Prepared chemical reagents for laboratory processes.

## July,2023 - Present

Freelancer Tutor

Role: Home-Schooling Tutor for Primary, Junior Secondary, and Secondary Students

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### Experience highlights

- Designed and delivered tailored lesson plans in Mathematics, Science, and English, improving student performance by an average of 25% within one academic term.
- Provided one-on-one coaching and mentorship, helping learners build confidence and improve problem-solving skills.
- Integrated modern digital learning tools and resources to enhance student engagement and comprehension.
- Supported exam preparation, resulting in over 80% of students achieving top grades in national and internal assessments.
- Collaborated with parents to monitor progress and develop strategies for continuous academic improvement.