

BSc (Microbiology)

Microbiology is the study of organisms that cannot be seen with the naked eye, such as bacteria, fungi, algae and viruses. Essentially, the microbiology graduate programme, with its focus on the structure, function and classification of microbial species, is the gateway to the fascinating microbial world.

Graduates enrolled for this degree will be exposed to a wealth of tools and theoretical information, which can be applied to exploit and control microbial activities for improving industrial and agricultural processes, as well as for improving the lives of animals, humans and plants in the ecosystem.

Who is the ideal candidate?

Aspiring microbiology scientists should have a solid background in science and are expected to demonstrate curiosity about how biological systems function in their environments. Microbiology overlaps with areas such as botany, chemistry, zoology, physiology, genetics, medicine, nutrition and environmental sciences.

Preferred candidates recognise that the field of microbiology has evolved—and continues to evolve—to cut across scientific disciplines, and understand that microbes impact every aspect of life on earth.

What makes this programme unique?

In microbiology, students learn about the different types of microbes which, even though invisible to the naked eye, represent the most abundant life forms on earth. It is believed that many microbes have not yet been discovered, and others are well adapted to survive in extreme conditions (eg in hydrothermal vents) that resemble conditions believed to have been prevalent when life began on earth billions of years ago. Microbiology is also one of only a few degree programmes that unites a diverse group of individuals (eg immunologists, geneticists, bioinformaticians, computational biologists, environmental scientists, etc) under one umbrella.

What career opportunities exist for graduates?

Since the field of microbiology has many branches, graduates can follow various careers in industry or in academia, where they can contribute to increasing scientific knowledge, or they can establish their own businesses.

Which companies employ our graduates?

Graduates with microbiology degrees are employed by leading research institutes in South Africa, including the CSIR, ARC, FABI, NICD, SASRI, MRC and NRF, and by biotech industries such as Inqaba Biotech, CapeBio, Akili Labs and BioTech Africa. Generally they are employed as:

- Managers (eg Land remediation/ Laboratory manager)
- Food technologists
- Laboratory technicians
- Quality assurance specialists
- Plant pathologists
- Medical/Clinical microbiologists
- Biomedical scientists
- Bioinformaticians
- Agricultural scientists
- Scientific writers

Minimum admission requirements

Programme	Minimum requirements for NSC and IEB for 2022			
	Achievement level			APS
	English Home Language or English First Additional Language	Mathematics	Physical Sciences	
BSc (Microbiology) [3 years] Closing dates: SA – 30 September, Non-SA – 31 August	5	5	5	32