



Make today matter

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

Students in this programme will gain access to a wide range of tools and theoretical knowledge. These can be applied to harness and control microbial activities to enhance industrial and agricultural processes, as well as to improve the well-being of animals, humans, and plants within the ecosystem.



Who is the ideal candidate?

Aspiring microbiologists should have a strong foundation in science and a natural curiosity about the functioning of biological systems in their environments. Microbiology intersects with fields such as botany, chemistry, zoology, physiology, genetics, medicine, nutrition, and environmental sciences.

Candidates should also appreciate that microbiology is an ever-evolving field that spans multiple scientific disciplines and recognise the profound impact microbes have on 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) under one umbrella.



Career opportunities

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, SAMRC 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 managers)
- 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/IEB for 2026 | | | |
|--|--|-------------|-------------------|-----|
| | Achievement level | | | APS |
| | English Home Language or English First Additional Language | Mathematics | Physical Sciences | |
| Bachelor of Science in Microbiology [3 years] | 5 | 5 | 5 | 32 |



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Natural and Agricultural Sciences

Fakulteit Natuur- en Landbouwetenskappe
Lefapha la Disaense tša Tlhago le Temo

Minimum requirements for
applicants with a school
leaving certificate not issued
by Umalusi (South Africa)



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Refer to the International undergraduate prospectus at www.up.ac.za/programmes > Undergraduate > Admission Information or [click here](#) for more information.

- The closing date for applications for programmes in this faculty is 30 June.
- Meeting the minimum admission requirements does not guarantee admission into a programme.

| FACULTY OF NATURAL AND AGRICULTURAL SCIENCES Programmes | Minimum requirements for 2026 | | | | | | | | | |
|---|--|--|----|----------------|-----------------|-----------------------------|-------|-------|--------------|------|
| | Achievement level | | | | | | | | | |
| | Compulsory subjects | GCSE # | | HIGCSE NSSC HL | AS Level | A Level | IB | | KOMBI ABITUR | KCSE |
| | | The qualifications in the two columns below will be considered only for conditional admission. If final AS and/or A levels have been completed, these two columns will not apply. It can also not be used for final admission and/or registration. | | | GCE CIE NSSC AS | GCE CIE CGCE UACE WAEC ZGCE | IB SL | IB HL | | |
| | | CIE | UK | | | | | | | |
| IGCSE LGCSE BGCSE EGCSE O Level NSSC OL CGCE UCE NECO WAEC WASSCE ZGCE | | England Wales Northern Ireland Pearson Edexcel GCSE | | | | | | | | |
| Bachelor of Science in Biochemistry | English Mathematics Physics Chemistry | C | 4 | 3 | C | E | 4 | 3 | 60-69% | B |
| Bachelor of Science in Biotechnology | | C | 4 | 3 | C | E | 4 | 3 | 60-69% | B |
| Bachelor of Science in Ecology | | C | 4 | 3 | C | E | 4 | 3 | 60-69% | B |
| Bachelor of Science in Zoology | | C | 4 | 3 | C | E | 4 | 3 | 60-69% | B |
| Bachelor of Science in Entomology | | | | | | | | | | |
| Bachelor of Science in Genetics | | | | | | | | | | |
| Bachelor of Science in Human Genetics | | | | | | | | | | |
| Bachelor of Science in Human Physiology | | | | | | | | | | |
| Bachelor of Science in Human Physiology, Genetics and Psychology | | | | | | | | | | |
| Bachelor of Science in Medical Sciences | | | | | | | | | | |
| Bachelor of Science in Microbiology | | | | | | | | | | |
| Bachelor of Science in Plant Science | | | | | | | | | | |
| Bachelor of Science in Chemistry | | | | | | | | | | |
| Bachelor of Science in Physics | | | | | | | | | | |
| Bachelor of Science in Geography [Option: Geography and Environmental Science] | | | | | | | | | | |
| Bachelor of Science in Geoinformatics | | | | | | | | | | |
| Bachelor of Science in Geology | | | | | | | | | | |
| Bachelor of Science in Meteorology | | | | | | | | | | |
| Bachelor of Science in Environmental and Engineering Geology | | | | | | | | | | |

Only English with at least a C symbol on this level can be used for final admission.

NOTE: The Faculty of Natural and Agricultural Sciences requires the following achievement levels for IELTS and TOEFL: TOEFL – Writing=22; Speaking=23; Reading=21; Listening=17
IELTS – Writing=6; Speaking=6; Reading=6; Listening=6



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|---|--|--|--------|----------------|-----------------|-----------------------------|--------|--------|-------------------|---------|
| | Achievement level | | | | | | | | | |
| | Compulsory subjects | GCSE # | | HIGCSE NSSC HL | AS Level | A Level | IB | | KOMBI ABITUR | KCSE |
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| IGCSE LGCSE BGCSE EGCSE O Level NSSC OL CGCE UCE NECO WAEC WASSCE ZGCE | England Wales Northern Ireland Pearson Edexcel GCSE | | | | | | | | | |
| Bachelor of Science in Food Science | English Mathematics Physics Chemistry | C | 4 | 3 | C | E | 4 | 3 | 60-69% | B |
| Bachelor of Science in Food Management [Option: Culinary Science] | | C | 4 | 3 | C | E | 4 | 3 | 60-69% | B |
| Bachelor of Science in Food Management [Option: Nutritional Science] | | C | 4 | 3 | C | E | 4 | 3 | 60-69% | B |
| Bachelor of Science in Agriculture in Agricultural Economics in Agribusiness Management | | C | 4 | 3 | C | E | 4 | 3 | 60-69% | B |
| Bachelor of Science in Agriculture in Animal Science | | C | 4 | 3 | C | E | 4 | 3 | 60-69% | B |
| Bachelor of Science in Agriculture in Plant Pathology | | | | | | | | | | |
| Bachelor of Science in Agriculture in Applied Plant and Soil Sciences | | | | | | | | | | |
| Bachelor of Science in Actuarial and Financial Mathematics | English Mathematics | C A | 4 7 | 3 1 | C A | E C | 4 6 | 3 5 | 60-69% 80-100% | B A |
| Bachelor of Science in Mathematics | English Mathematics | | | | | | | | | |
| Bachelor of Science in Applied Mathematics | | C B | 4 5 | 3 2 | C B | E D | 4 5 | 3 4 | 60-69% 70-79% | B B+ |
| Bachelor of Science in Mathematical Statistics | | | | | | | | | | |
| Bachelor of Consumer Science specialising in Clothing and Retail Management | English Mathematics | C D | 4 3 | 3 3 | C D | E E | 4 2 | 3 2 | 60-69% 50-59% | B C+ |
| Bachelor of Consumer Science specialising in Food Management | | | | | | | | | | |

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IELTS – Writing=6; Speaking=6; Reading=6; Listening=6



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|---|---|--|------------------|------------------|------------------|-----------------------------|------------------|------------------|--------------------------|----------------------|
| | Achievement level | | | | | | | | | |
| | Compulsory subjects | GCSE # | | HIGCSE NSSC HL | AS Level | A Level | IB | | KOMBI ABITUR | KCSE |
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| IGCSE LGCSE BGCSE EGCSE O Level NSSC OL CGCE UCE NECO WAEC WASSCE ZGCE | | England Wales Northern Ireland Pearson Edexcel GCSE | | | | | | | | |
| Bachelor of Science in Mathematics [4-year programme] | English Mathematics | D C | 3 4 | 3 3 | D C | E E | 2 4 | 2 3 | 58% 65% | B- B |
| Bachelor of Science in Chemistry [4-year programme] | English Mathematics Physics Chemistry | D D D D | 3 3 3 3 | 3 3 3 3 | D D D D | E E E E | 2 2 2 2 | 2 2 2 2 | 58% 58% 58% 58% | B- B- B- B- |
| Bachelor of Science in Geoinformatics [4-year programme] | | | | | | | | | | |
| Bachelor of Science in Geology [4-year programme] | | | | | | | | | | |
| Bachelor of Science in Meteorology [4-year programme] | | | | | | | | | | |
| Bachelor of Science in Physics [4-year programme] | | | | | | | | | | |
| Bachelor of Science in Ecology [4-year programme] | | | | | | | | | | |
| Bachelor of Science in Human Physiology [4-year programme] | | | | | | | | | | |
| Bachelor of Science in Agriculture in Applied Plant and Soil Sciences [5-year programme] | | | | | | | | | | |
| Bachelor of Science in Agriculture in Plant Pathology [5-year programme] | | | | | | | | | | |

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