



Make today matter

Mathematics, which originated from arithmetic and geometry, is based on patterns and structures and is the fundamental language of science and technology. Applied mathematics is concerned with the modelling and treatment of real-life problems in a variety of fields, such as engineering, finance, statistics, physics and biology. The power of mathematics and applied mathematics lies in their abstract, analytical and computational nature. Nowadays, mathematics is essential for all technological, financial and managerial industries, which form the backbone of the South African economy.



Who is the ideal candidate?

The ideal candidates are students who enjoy mathematics and excel in the subject. They have a strong foundation in basic mathematical concepts and a passion for solving problems.



What makes this programme unique?

The Department of Mathematics and Applied Mathematics is not only one of the largest departments on the Hatfield Campus, but also one of the largest mathematics departments in the country, with approximately 17 500 student enrolments for mathematics modules. The Department prides itself on excelling in teaching and research, as well as in community-based activities.

The diverse and competent staff has expertise in various fields. The Department regularly hosts international visitors and its researchers frequently travel abroad to attend conferences and pay research visits. No fewer than 31 of its researchers have received NRF ratings in fields ranging from more traditional abstract analysis to contemporary epidemiology, where the modelling of biological phenomena leads to exciting options.

A degree in mathematics trains students to apply, evaluate and adapt existing problem-solving techniques, or to develop new mathematical models and techniques to solve problems stemming from natural, technological and financial phenomena.



Career opportunities

Graduates in mathematics and applied mathematics are employed by research institutions, in education (universities and schools), the public sector (government and medical institutions) and the private sector (engineering companies, financial institutions and the computer industry).

The training of these graduates in abstract, analytical and computational thinking provides them with the versatile background required to easily adjust to changing circumstances in the professional environment and to construct mathematical models of natural, technological and financial phenomena. Mathematicians and applied mathematicians apply, evaluate and adapt existing problem-solving techniques or develop new techniques to solve those problems.



Which companies employ our graduates?

A Bachelor of Science in Mathematics or Bachelor of Science in Applied Mathematics degree is a solid foundation for a professional career in many fields. Many of our graduates are employed by the banking and financial sector, but also in new fields like bioinformatics, genetics, management consulting, and weather forecasting. As there is a general shortage of mathematicians in South Africa, top performing students opt for further studies and an academic career.

Bachelor of Science in Mathematics

Compulsory modules are:

- Analysis
- Abstract algebra
- Geometry (third-year level)
- Calculus
- Linear algebra
- Differential equations
- Discrete structures (second-year level)
- Mathematical modelling
- Mathematical statistics
- Numerical analysis (first-year level)
- Dynamical processes (first-year level)

Bachelor of Science in Applied Mathematics

Compulsory modules are:

- Analysis
- Continuum mechanics
- Numerical analysis (third-year level)
- Partial differential equations
- Dynamical systems (third-year level)
- Calculus
- Linear algebra
- Discrete structures
- Differential equations (second-year level)
- Mathematical modelling
- Mathematical statistics
- Dynamical processes (first-year level)

Minimum admission requirements

Programmes	Minimum requirements for NSC/IEB for 2026		
	Achievement level		APS
	English Home Language or English First Additional Language	Mathematics	
Bachelor of Science in Mathematics Bachelor of Science in Applied Mathematics [3 years]	5	6	34



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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									
Bachelor of Science in Biotechnology										
Bachelor of Science in Ecology										
Bachelor of Science in Zoology										
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		C	4	3	C	E	4	3	60-69%	B
Bachelor of Science in Microbiology		C	4	3	C	E	4	3	60-69%	B
Bachelor of Science in Plant Science		C	4	3	C	E	4	3	60-69%	B
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



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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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
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Bachelor of Science in Food Science	English Mathematics Physics Chemistry									
Bachelor of Science in Food Management [Option: Culinary Science]										
Bachelor of Science in Food Management [Option: Nutritional Science]										
Bachelor of Science in Agriculture in Agricultural Economics in Agribusiness Management		C C C C	4 4 4 4	3 3 3 3	C C C C	E E E E	4 4 4 4	3 3 3 3	60-69% 60-69% 60-69% 60-69%	B B B B
Bachelor of Science in Agriculture in Animal Science										
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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	Achievement level									
	Compulsory subjects	GCSE #		HIGCSE NSSC HL	AS Level	A Level	IB		KOMBI ABITUR	KCSE
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		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 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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IELTS – Writing=6; Speaking=6; Reading=6; Listening=6

