Stellenbosch UNIVERSITY IYUNIVESITHI UNIVERSITEIT

Science
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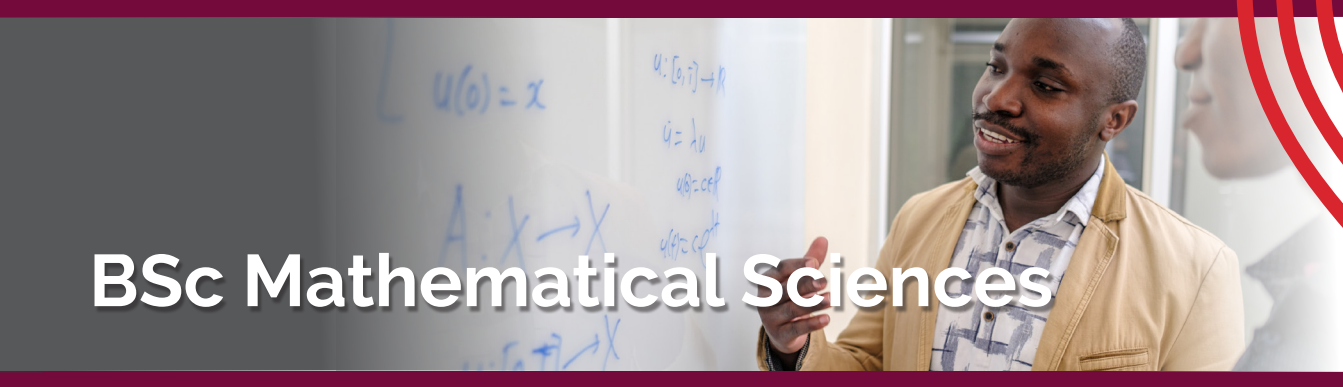
Natuurwetenskappe



BSc Mathematical Sciences

The BSc in Mathematical Sciences allows students in choosing a focal area according to their interest, in Mathematics, Applied Mathematics, Abstract Mathematics, and Operations Research. In the first year, all focal areas have Mathematics as a compulsory subject. However, the focal area you choose will determine the compulsory major in your third year and your other subjects. These may include subjects offered by other faculties, such as Mathematical Statistics, Operations Research and Music Technology.

Focal areas

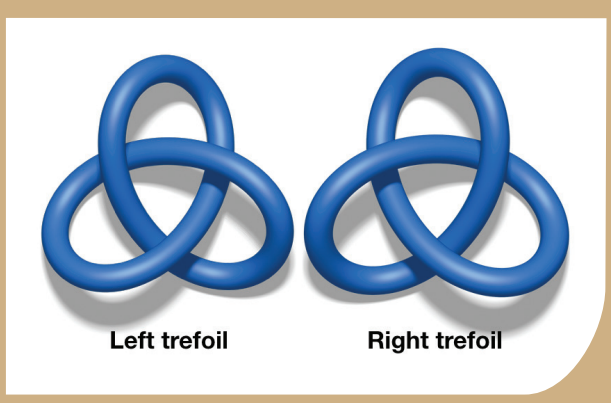
- Mathematics
- Applied Mathematics
- Abstract Mathematics
- Operations Research

NB: Consult the Faculty of Science Yearbook for detailed information on subjects and modules.

Do I qualify?

Minimum admission requirements

- Average (excluding Life Orientation): **65%**
- English OR Afrikaans *(Home Language or First Additional Language)*: **50%**
- Maths **70%**
- Physical Sciences **50%** *(if you take Physics or Chemistry)*



Focal areas explained:

Mathematics and Abstract Mathematics

The technological advances of the last century rely heavily on mathematics discovered or created 200 years ago. However, mathematics has developed substantially since then and no doubt many applications and technological advancements in the future will arise from the pure mathematics of the current era. Mathematicians' preoccupation is thus the discovery, understanding, and communication of good, beautiful mathematics.

This focal area equips you to become a graduate with a thorough understanding of the nature, scope, and application potential of mathematics. You will be able to continue with postgraduate studies in mathematics or enter a career where sophisticated quantitative skills and insight are required.

Applied Mathematics

Applied Mathematics is a branch of mathematics that is concerned with developing mathematical methods and applying them to science, engineering, industry, and society. In applied mathematics, the discoveries and activities are driven by applications, while in pure mathematics it is the mathematics itself that drives the activities.

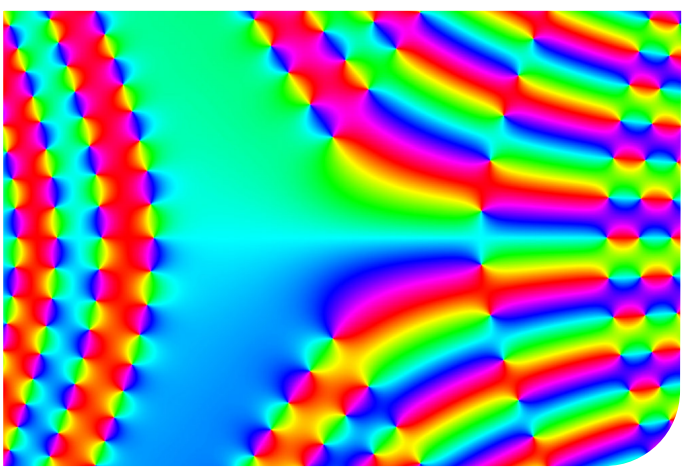
This focal area trains students to become graduates who have the necessary knowledge and skills in respect of mathematical methods and computer techniques to solve both quantitative and qualitative problems in science and technology. With this theoretical and technical background and experience in various applications, such as the modelling of dynamic processes, image processing, computer security, numerical methods, and flow modelling, you will be able to pursue a successful career in industry, including careers in banking and the computer industry.

Operations Research

Operations research takes a multidisciplinary, scientific approach to decision-making. The aim is to find the best solutions to complicated problems by the optimal allocation of scarce resources. The goal-oriented approach of this focal area with its synergistic style delivers graduates who can find solutions to quantitative problems.

Why study Mathematical Sciences?

- If you want to combine your interest in mathematics with biology or medicine, and if you want to make a meaningful contribution to the understanding of natural and biological processes, then this is the course for you.
- With Applied Mathematics, you can formulate and solve problems in all walks of life by developing and making use of mathematical methods in an innovative way.
- Many companies out there are focusing on finding scientific solutions to specific problems – they need mathematicians and applied mathematicians to build those models for them, especially in the case of big data.



Why study Mathematical Sciences at Stellenbosch University?

Did you know?

- The BSc Mathematical Sciences degree at SU allows you to choose from a variety of elective modules within your chosen focal area.
- The Mathematics Division offers a stimulating and challenging exploration of mathematical ideas for the development of critical thinking and intellectual abilities, sought after in many careers.
- The Applied Mathematics Division focuses on research in numerical analysis and scientific computing, computer vision and machine learning, fluid dynamics and modelling, and applied discrete mathematics.
- The Applied Mathematics Division has strong ties with the Faculty of Engineering.
- Our lecturers are passionate teachers and experts in their fields, actively engaged in discovering and creating new mathematics.

What can I do with a degree in Mathematical Sciences?

Actuarial analyst	Epidemiological modelling	Project manager
Biomathematician	Forecast analyst	Quantitative analyst
Business analyst	Game designer	Research and development engineer
Consultant	Informatics scientist	Risk analyst
Cryptanalyst	Investment analytics	Software developer
Data analyst	Model development analyst (Banking)	Statistician
Data scientist	Operations manager	Supply chain analyst

Major employers of mathematicians and applied mathematicians

Council for Scientific and Industrial Research; Medical Research Council; Educational sector; Agricultural sector (Fisheries; Forestry); Human Sciences Research Council; Financial, investment and banking sectors.

> "We particularly advise pursuing a pure mathematics degree to those who enjoy mathematics and who love creativity and precision of thought."
>
> - Department of Mathematical Sciences, Stellenbosch University

Contact details

Mathematics Division

Tel. (021) 808 3282 / **E-mail:** lisam@sun.ac.za

Website: https://math.sun.ac.za

Applied Mathematics Division

Tel. (021) 808 4215 / **E-mail:** appliedmaths@sun.ac.za

Website: https://appliedmaths.sun.ac.za

Contact our recruitment officer

Qaqamba Mhlauli

qmhlauli@sun.ac.za or science@sun.ac.za

Deadline for applications: 31 July

General selection and application criteria

https://www.sun.ac.za/english/maties