

MATHEMATICAL SCIENCE

MATHEMATICS and **APPLIED MATHEMATICS** are subjects that are of vital importance to any serious scientist, for true science is largely characterised by the ability to quantify one's observations.

The mathematician solves problems by means of logical deductions made from abstract models of concrete cases. By translating a practical problem into mathematics and solving it according to mathematical rules and systems, a mathematical scientist can interpret the solution in the context of the original problem, thereby solving it, or using the result to derive new models. Careers in the physical sciences, engineering, actuarial science and statistics are impossible without a sound preparation in mathematics.

STATISTICS is the science of decision making in the face of uncertainty, and finds application in such diverse fields as gambling, life insurance, the design and analysis of surveys, quality control, actuarial science, engineering, astronomy, chemistry, medicine and the analysis of complex systems.

Statisticians find employment in commerce and industry, research institutes and government departments, where they are in demand not only for their specialised training, but for their logical approach to diverse scientific and technical problems.

Courses in statistics are a required component of several degrees at university, and an ever increasing number of students from many disciplines such as biology, computer science, and environmental science find that they need to study the subject to equip themselves for research and other careers in their chosen field.

ACTUARIES, as highly qualified persons in statistical and mathematical calculations are primarily concerned with defining, analysing and solving complicated financial, business and social problems relating to financial security. An actuary is able to make a choice from a range of career options which the profession has to offer, such as: business executive, consultant, statistician and investment expert.

Actuaries feature in many top management positions such as life assurance companies, mining companies, attorneys, building companies, medical aid schemes and in industry. Actuaries can also act as private consultants.

SCHOOL TRAINING

A Senior Certificate with exemption.

SCIENCE TRAINING

Considering that the prerequisites at universities and universities of technology sometimes differ, we recommend that you contact the university or university of technology of your choice, to ensure that you meet with their specific prerequisites.

UNIVERSITY

The BSc (Bachelor of Science), the usual "first" degree in the Faculty, requiring a minimum of three years study after school. A wide range of subjects can be studied in order to qualify for this degree. The BSc(Hons) may be regarded as a fourth year to an ordinary BSc. The MSc (Master of Science) and PhD (Doctor of Philosophy) degrees are awarded after postgraduate research study and the writing of a thesis.

UNIVERSITY OF TECHNOLOGY

The National Diploma is awarded after three years successful study. After the fourth year a BTech (Bachelor in Technology) will be awarded. After the fifth year the MTech (Master of Technology) will be awarded and after that the DTech (Doctor of Technology).



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Central University of
Technology, Free State

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UNIVERSITY OF
KWAZULU-NATAL

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University of Fort Hare

Together in Excellence

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