

Natural and Agricultural Sciences

STATISTICS: an app for everything

By Prof Andriëtte Bekker

Statistics can be described as the science of extracting information from data.

We use statistics every day to make sense of the world around us: from the friend suggestions offered by Facebook to the way that Apple Music recommends new music for you. Statistics is a vital part of modern life and business.

Knowledge about statistics can increase the scope of possible jobs you could consider in practically any industry. If you are looking for an exciting career, this is it!



A LinkedIn survey in 2016 indicates that the number one skill that can get you hired in South Africa right now, is **statistical analysis** and **data mining**.



CareerCast.com rates 200 different careers and their survey indicates that the two best jobs available right now are that of a **Data Scientist** and that of a **Statistician**.



A 2016 *Fortune* magazine article indicates that having a master's degree in **Biostatistics** or in **Statistics** will ensure you of excellent employment with above average remuneration.



US News ranked **Statisticians as #4 in the Best 100 jobs** based on a combination of salary, job market, future growth, stress and work life balance.



US News ranked **Statisticians as #1 in the Best Business Jobs** listing.



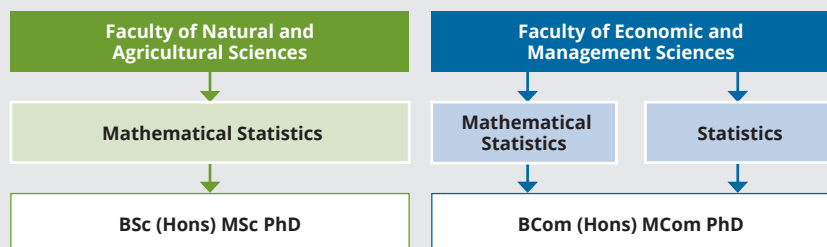
According to Forbes (2016) the best job to pursue is that of a **Data Scientist**.

The Department of Statistics at the University of Pretoria

The very first statistics department in South Africa was established at the University of Pretoria since 1939 and it remains the largest statistics department in the country. If you enjoy solving complex problems, a career in statistics will offer you a challenge and exciting career prospects!

Description of the programme

You have a choice of two programmes and the route you choose will depend on the career path you desire for yourself.



Mathematical Statistics and Statistics programmes	Minimum requirements for 2018								APS
	Achievement level								
	Afrikaans or English				Mathematics				
	NSC/IEB	HIGCSE	AS Level	A Level	NSC/IEB	HIGCSE	AS Level	A Level	
Faculty of Natural and Agricultural Sciences: BSc (Mathematical Statistics) [3 years] Closing dates: SA – 30 September Non-SA – 31 August Note: Candidates, who do not comply with the minimum admission requirements for BSc (Mathematical Statistics), may be considered for the BSc – Extended programme for Mathematical Sciences . This programme takes place over a period of four years instead of the normal three years. This programme is only offered in English. The first year of study is presented at the Mamelodi Campus. Admission is subject to selection.	5	3	C	C	6	2	B	B	32
Faculty of Economic and Management Sciences: BCom (Statistics) [3 years] Closing dates: SA – 30 September Non-SA – 31 August Note: Candidates, who do not comply with the minimum admission requirements for BCom (Statistics), may be considered for the BCom – Extended programme . This programme takes place over a period of four years instead of the normal three years. This programme is only offered in English. The first year of study is presented at the Mamelodi Campus. Admission is subject to selection.	4	3	D	D	5	3	C	C	26
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“If you think that statistics has nothing to say about what you do, or how you could do it better, then you are either wrong or in need of a more interesting job.” ~ Stephen Sen ~

Statistical Analysis Software (SAS) certification

Undergraduate and honours students in Statistics and Mathematical Statistics can now obtain an SAS certification. SAS is an international statistical software developer (www.sas.com/en_us/software/analytis/stat.html).

SAS offers four certificates to students:

- Introduction to statistical learning
- Statistical learning
- Introduction to big data analytics
- Big data analytics

“Data is the sword of the 21st century; and those who wield it well, the Samurai.”

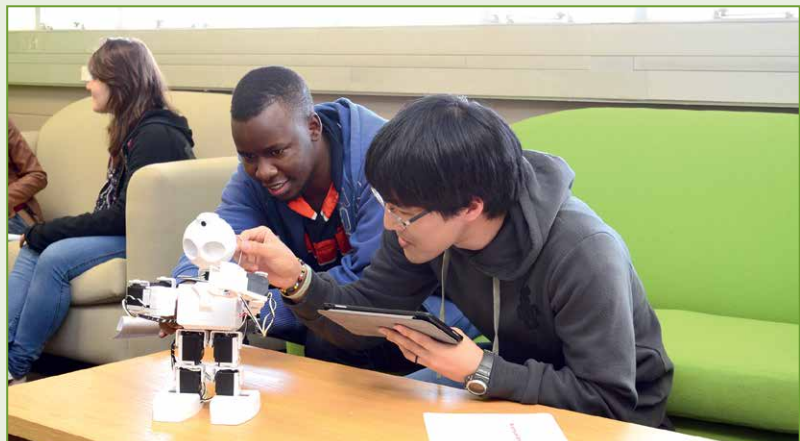
~ Jonathan Rosenberg ~

PhD programme with McMaster University in Canada

A brand new joint PhD programme has been pioneered between UP and McMaster University, Canada. This will enable our students to study, work and network with students and staff at McMaster and with other experts in the field of statistics.

The Statistics Industry HUB in our Department

The HUB brings master’s students and industry partners together through exciting study opportunities. Join a vibrant HUB community and experience statistics used to compile life insurance products; statistics used to recommend fashion items online; statistics used to detect fraudulent credit card transactions; and many more. Select one of many research topics, and start building your statistics career while you’re a student.



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“Statistical thinking will one day be as necessary a qualification for efficient citizenship, as the ability to read and write.” ~ HG Wells ~

Achievers in the Department of Statistics



Qualitative Analyst, **Amelia van Schalkwyk** is the SAS Student Ambassador at the 2017 SAS Global Forum Conference in Orlando, USA.



Quintine Mkhondo started his studies at UP at the age of 15 and is currently an Honours student in Mathematical Statistics.



Kevin Yoo is a recipient of the Vice-Chancellor and Principal Award at UP.



Sphiwe Mphuthi is a finalist in the Nedbank and Old Mutual budget speech competition (www.budgetspeechcompetition.co.za).



Brenda Omachar was a 2015 winner of the postgraduate competition of the ISI World Statistics Congress in Rio de Janeiro.



Johan Ferreira was one of the *Mail and Guardian's* 200 Young South African's in 2016. He was also invited to attend the G20 Youth Summit in Germany.



Prof Mohammad Arashi was recently awarded the Behboodian Award for statisticians younger than 40 years of age by the Iranian Statistical Society.



Janet van Niekerk is the youngest PhD graduate in the Department of Statistics at UP.



Iketele Maharela is the 2015 winner of a Women in Science Award from the Department of Science and Technology.



Thea Corbett and **Christine Kraamwinkel** are both UP Laureate Award winners for their teaching excellence and innovation.



“Make Statistics YOUR future, because Statistics IS the future.”

– Prof Andriëtte Bekker
Head of the Department of Statistics

Contact information

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Website www.up.ac.za/statistics

Young alumni have their say

“I build statistical models to help banks make sound decisions about who they grant loans to and whether a customer can actually afford the credit they are applying for. Statistics is a thrilling field with so many applications in every industry. Statistics helps to answer questions. Statistics is a rare skill that is highly sought after in the workplace.”

Buwang Mokele (Decision Analyst)

“People across the globe need statistical skills. Statistics is everywhere and relates to everyday life in countless ways. News, information exchanges, interactions and events involve statistics. I am grateful to be a statistician!”

Seite Makgai (Lecturer in the Department of Statistics at UP)

“As a lecturer, I enjoy sharing my knowledge and experience in statistics with new students. I also enjoy developing new theories in Mathematical Statistics.”

Vusi Bilankulu (Lecturer in the Department of Statistics at UP)

‘ For artists, scientists, inventors, school children, and the rest of us, intrinsic motivation, the drive to do something because it is interesting, challenging and absorbing, is essential for high levels of creativity.’

~ Daniel H Pink ~



Frederick Malan

PhD Chemie-student gekies om 67ste Nobelpryswenersbyeenkoms by te woon

Frederick Malan, 'n finalejaar-PhD-student in die Departement Chemie, is een van net vyf Suid-Afrikaanse nagraadse studente wat gekies is om die 67ste Nobelpryswenersbyeenkoms van 25 tot 30 Junie 2017 in Lindau, Duitsland, by te woon.

“Ek is baie opgewonde om hierdie gesogte internasionale wetenskapsforum by te woon en van die wêreld se toonaangewende en mees gerespekteerde navorsers op

die gebied van chemie te ontmoet. Ongeveer 400 studente sal die geleentheid bywoon.”

Frederik het 'n UP Nagraadse Reistoekening na die Universiteit van Bern, en NRF-innovasiebeurse vir sy honneurs-, meesters- en PhD-studie verwerf. Hy het ook 'n UJ-Volgende Generasie-studiebeurs vir sy MSc en die Merck-toekening vir beste derdejaarstudent in Chemie ontvang.