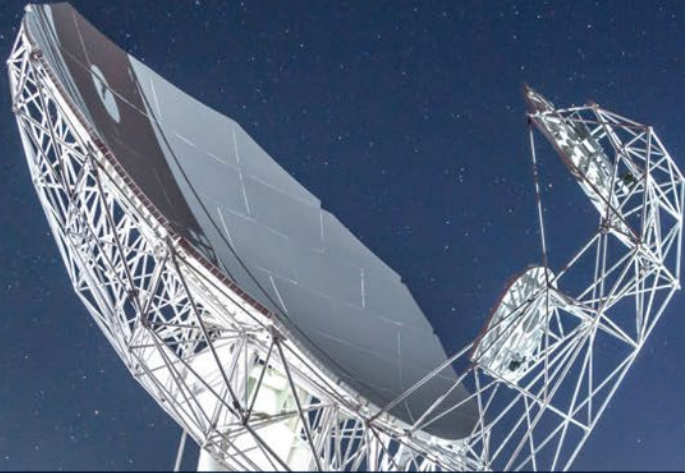


NELSON MANDELA UNIVERSITY



**School of Computing Sciences, Mathematics &
Applied Mathematics, Physics and Statistics**

Director: Prof Janet Wesson

Computing Sciences



Prof Brenda Scholtz
HOD: Department of Computing Sciences

Play with New Tech & be Creative – Never bored



4th Industrial Revolution opportunities

Travel the World, Work Anywhere



Mandela University Computing Sciences ...
Published by Jean Greyling (?)
Page Liked · November 8, 2015 · Edited · €
○ Allowed on Timeline ▾

Maxine Esterhuyse, Alyssa Whale, Martin Smuts and Brenda Scholtz attending the IDEA conference in Zanzibar. The difficult life of Masters students and their supervisor 😊 — with Maxine Pier Esterhuyse, Alyssa Whale, Martin Smuts and Brenda Scholtz.

📍 Tag Photo 📍 Add Location ✎ Edit

👍 Like 💬 Comment ➦ Share 🌐 ▾

👍 70 Top Comments ▾

 **Lukas Durovsky** it seems I have to consider post-grad at NMMU 😊
Like · Reply · Message · 📍 1 · November 8, 2015 at 11:11am
↳ 1 Reply

 **Emile Senga** Blood, sweat, selfies and the beach.
Like · Reply · Message · 📍 1 · November 8, 2015 at 8:54pm



Make a difference (Social/Environmental Impact)



Software Developers

```
FUNCTION is_really_null (value_in IN CLOB)
RETURN BOOLEAN
IS
BEGIN
RETURN value_in IS NULL
OR DBMS_LOB.getlength (value_in) = 0
OR value_in = ''
OR value_in = 'NULL';
END is_really_null;
```

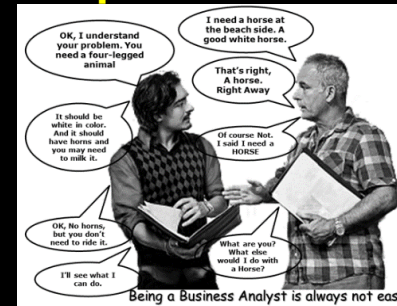
Project Manager



Data Scientist



User Interface/Design Specialist

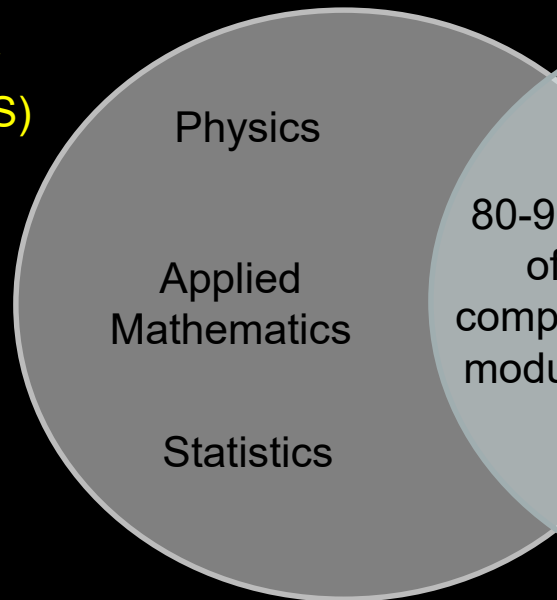


Quality Tester

IS Auditor

Degrees in Computing Sciences

**BSc
Computer
Science (CS)
– 3 years**



80-90%
of
computer
modules

**BCom CS&IS
– 3 years**

Accounting
Economics
Business
management

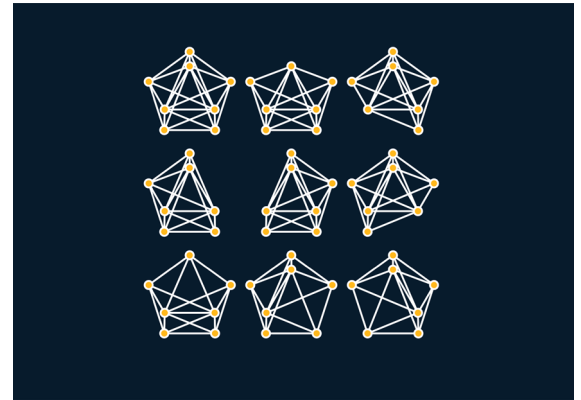
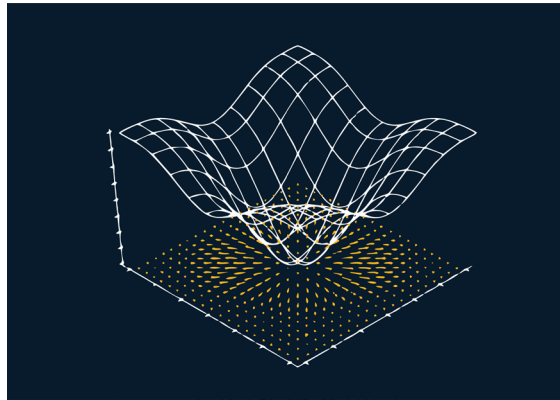
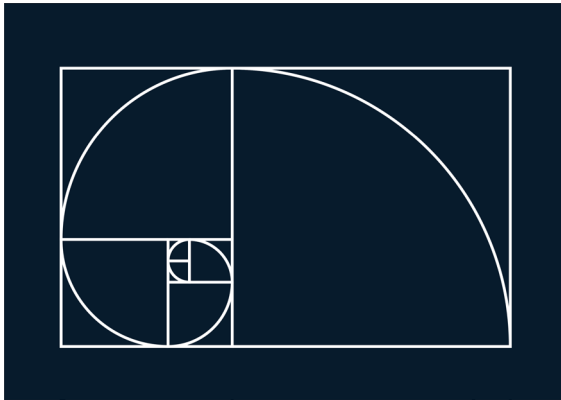
**BCom
Information
Systems (IS)
- 3 years**

BCom Accounting Science (4 years)

Mathematics and Applied Mathematics

“Mathematics is a remarkable sprawling riot of imagination, ranging from pure intellectual curiosity to nuts-and-bolts utility; and it is all one thing.”

(Ian Stewart, “Game, Set, and Math: Enigmas and Conundrums”, 1989)



Mathematics and Applied Mathematics

Studying mathematics at university usually entails two broad areas, namely analysis and algebra. In particular, in analysis it is calculus, and in algebra it is linear algebra.





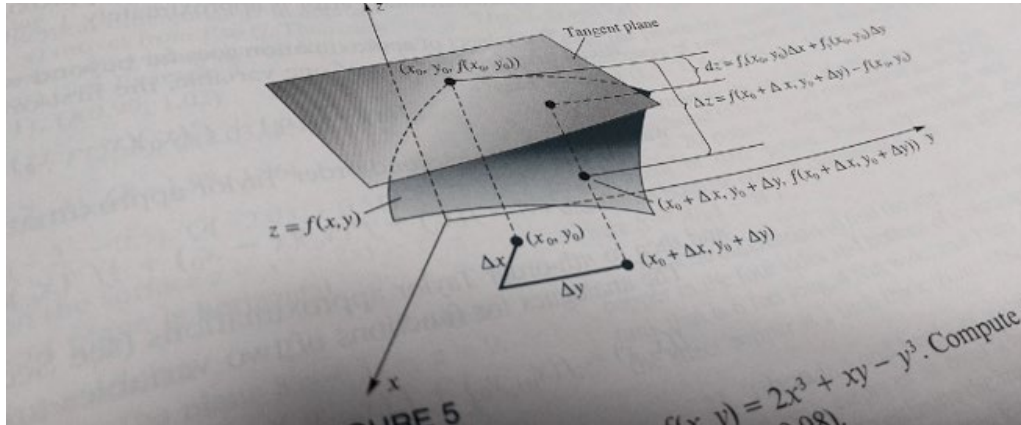
Pure vs Applied Curriculum Content

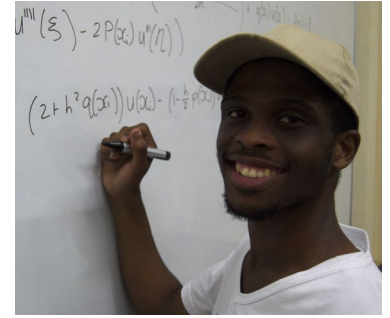
- The applied mathematics modules focus on mathematical analysis methods, which can be used in a range of science and industrial situations.
 - The first two years is mostly mathematics for applications:
 - Analysis – Calculus
 - Algebra – Linear Algebra
 - Third years begin to encounter proper pure mathematics:
 - Mathematical justification of techniques from first 2 years
 - Abstraction

Postgraduate Studies

The department offers post-graduate up to PhD level.

Honours course programmes are offered in both mathematics and applied mathematics, while Masters and PhD are offered via research for both.





The Department





Physics

Graduate skills and attributes

Thorough
investigative skills

Good Experimental
skills

Excellent personal
skill

Critical thinker

Excellent
Communication
skills

Sound knowledge
of physics laws,
principles and
mathematical tools

Skilled in data
analysis

Skilled in
Mathematical
modelling

Self-starter



Academic programme

BSc undergraduate curriculum	BSc Honours curriculum
Classical Mechanics	Quantum Mechanics
Electrodynamics	Electrodynamics
Thermodynamics	Solid State Physics
Optics	Statistical Physics
Electronics (indirectly)	
Modern Physics	
Solid State Physics	
Quantum Mechanics	



Postgraduate research and training

Physics at the Nelson Mandela University provides post graduate students with cutting-edge research opportunities in the following fields.

Optical fibre communication

Semiconductor materials and nanostructures

Renewable energy

Electron microscopy

Statistics

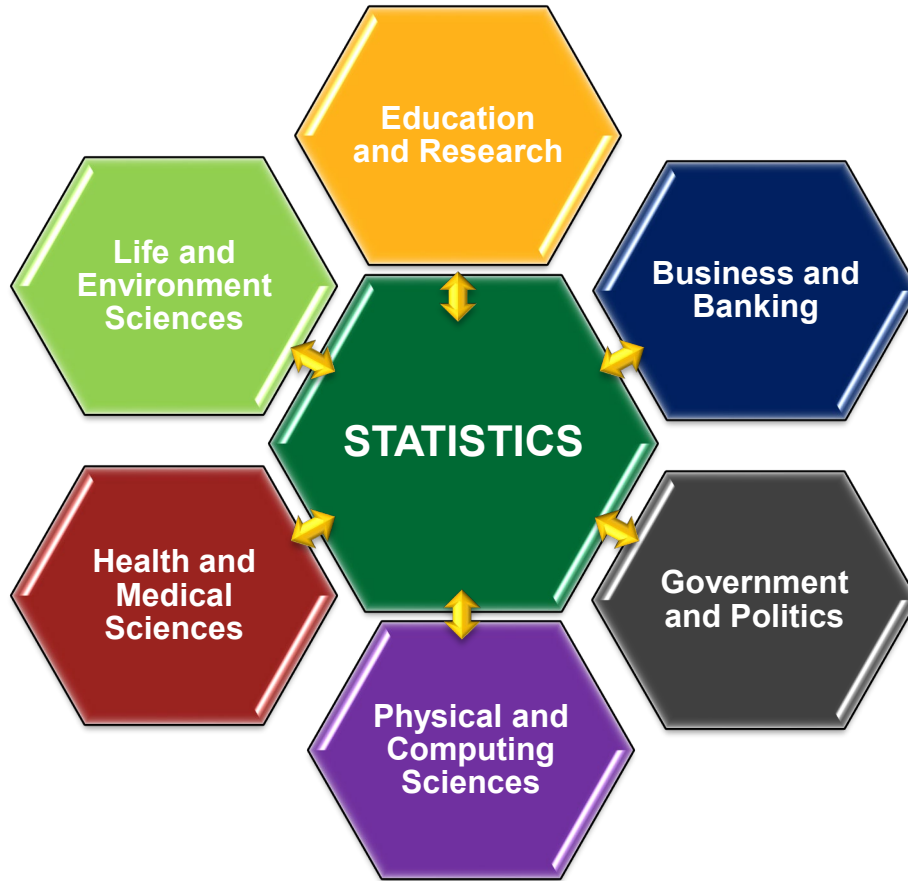
- The study of the methods and tools used to analyse, present and model data to make predictions and decisions.
- Essential tool for financial analysts, managers, government, business industry and academics
- **CAREER OPPORTUNITIES**
 - Quantitative analyst
 - Data Scientist
 - Risk analyst
 - Government institutions
 - Actuarial Science

***“The sexy job in the next 10 years
will be statisticians ...
I’m not kidding”***

- Hal Varian (Chief Economist: Google, 2009)



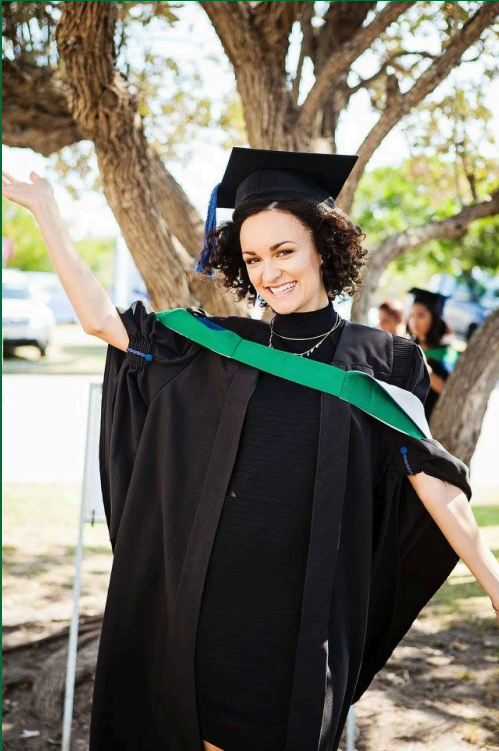
Still valid today!





Staff and Students





“Educating for Life and Work”

statistics.mandela.ac.za



Change the World

mandela.ac.za