



Stellenbosch
UNIVERSITY
IYUNIVESITHI
UNIVERSITEIT

1944 - 2024

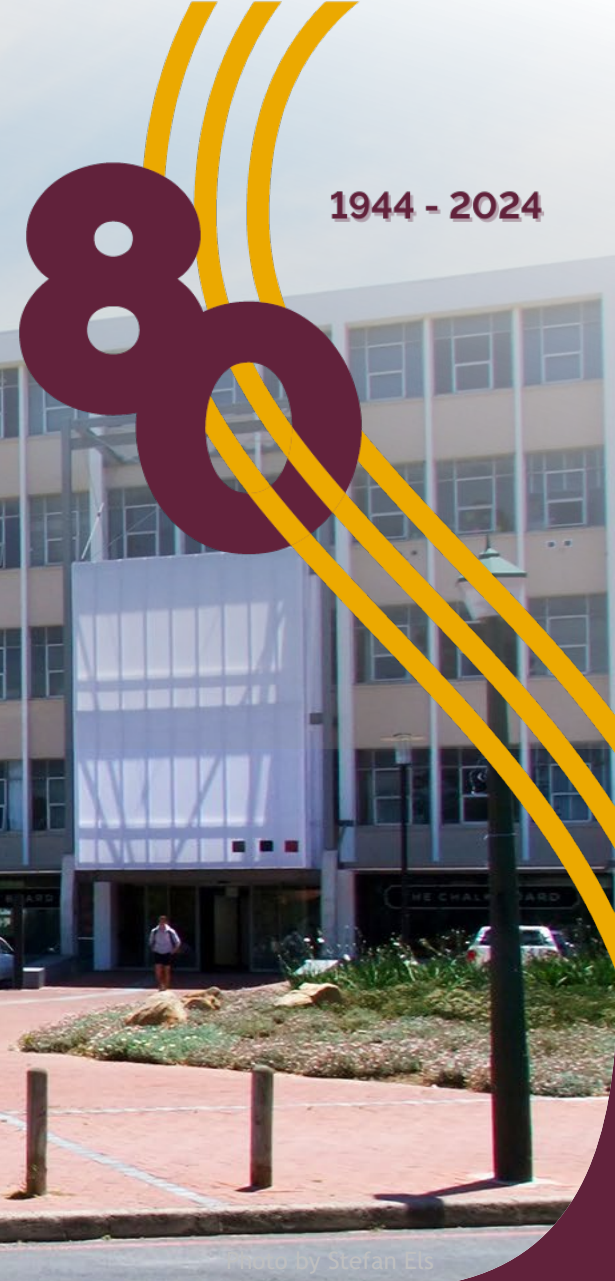


Photo by Stefan Els



Stellenbosch
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FACULTY OF ENGINEERING STELLENBOSCH UNIVERSITY

Welcoming of new First-Year Engineering Students

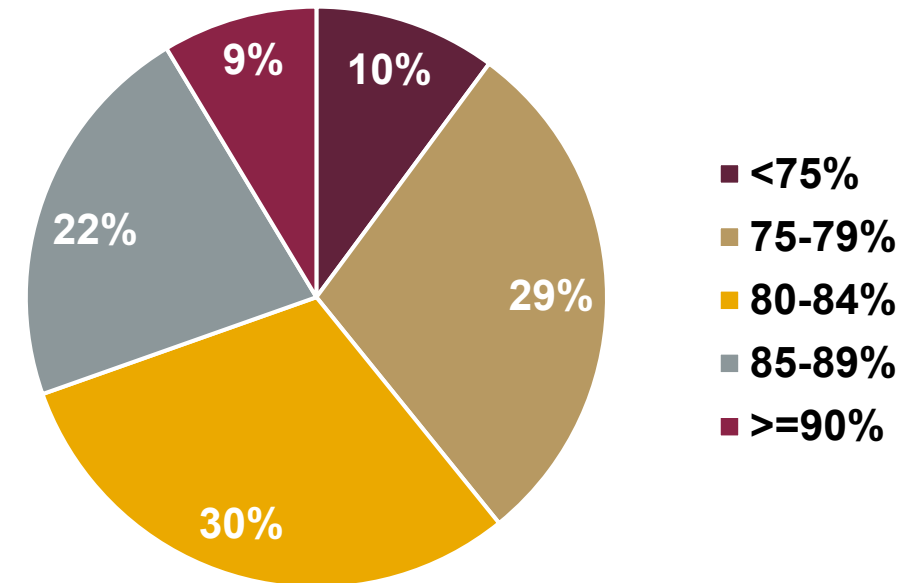
Prof Wikus van Niekerk: Dean

4 February 2024

CONGRATULATIONS

- Your matric results were excellent
- You are one of a select group
 - More than 6 000 applicants for 840 places
 - 61% of our first-year students had Matric average $\geq 80\%$

Matric Averages 2023 Cohort



TODAY'S TALK

- Background about the Faculty
- Undergraduate programmes
- Advice
- Important information
- Questions

TODAY'S TALK

- We want our students to do well
 - To educate as many competent engineers as possible
- We know you want the same for your future career in Engineering as well
- We should approach this as a team, **Team Stellenbosch Engineering**

DEAN OF ENGINEERING

- Prof Wikus van Niekerk
 - General management of the Faculty
 - “Guardian” for the 1st year students
- The Dean’s office regularly meets all 1st years
 - Every Monday, whole first semester: “Dean’s Lecture”
 - Part of the Intercultural Communication module
 - Advice on effective study methods
 - Having a balanced life as an engineering student
 - Offers advice and refer to further help at the University



ADDITIONAL SUPPORT STAFF

- Ms Natalie White
(natalies@sun.ac.za)
- Mr August Engelbrecht
(august@sun.ac.za)
- Two educational psychologists (part-time)
 - Ms Inez Saunders and Ms Annette du Plessis
 - Arrange appointments through Ms Natalie White



BACKGROUND ABOUT THE FACULTY



MISSION OF ENGINEERING FACULTY

- To serve as a **cost-effective** source of **excellent** technical expertise, through
 - Teaching
 - Research, and
 - Service to industry and the community

HISTORY

- Established in 1944
- Faculty is 80 years old
- First Afrikaans Engineering Faculty in South Africa, now multilingual
- Track record for producing excellent undergraduate students
- Outstanding research record in cooperation with industry

ORGANOGRAM



Dean of Engineering
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Vice-Dean (Teaching)
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Faculty Director
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Vice-Dean (Research)
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Student Support
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Student Recruitment
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Faculty Administrator
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Chemical Engineering
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Civil Engineering
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Industrial Engineering
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Electrical & Electronic Engineering
Prof Herman Engelbrecht
(021) 808 2139
ee@sun.ac.za



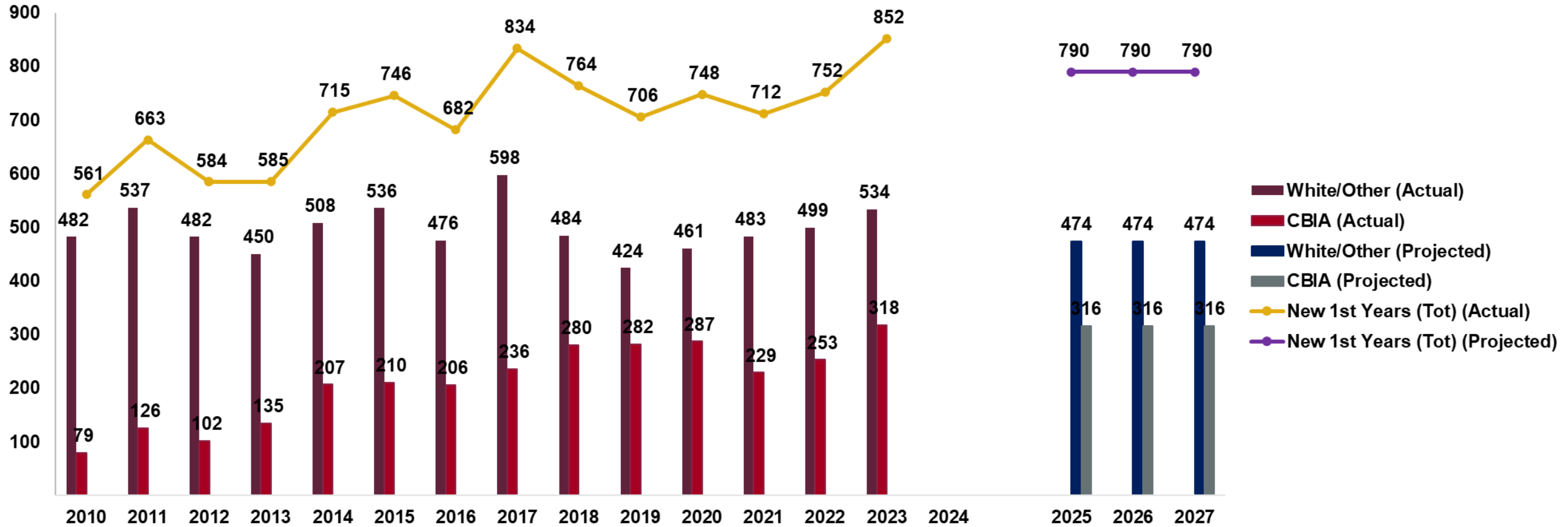
Mechanical & Mechatronic Engineering
Prof Johan van der Spuy
(021) 808 3742
mmchair@sun.ac.za

ENGINEERING FACULTY STATISTICS

- Some numbers (2023)
 - 2 952 undergraduate students
 - 1 297 postgraduates (~31%)
 - Graduates: 493 BEng, 262 Master's and 53 PhD's (Dec 2022 & March 2023)
- Typical intake of about 840 first years
 - UG success rate of 75% (graduate after 4-6 years)
 - South Africa average 44%
 - About half of BEng 1st years graduates in 4 years

ENGINEERING FACULTY STATISTICS

B.Eng New First Year Growth and Enrolment Planning



UNDERGRADUATE PROGRAMMES



ACCREDITATION: ALL OUR BEng PROGRAMMES

- Engineering Council of South Africa
 - Registration as a Professional Engineer
- Washington Accord
 - Meet educational requirements in USA, Canada, Ireland, UK, Australia, Hong Kong, Japan, Korea, New Zealand, Russia, Malaysia, Singapore, Turkey



DATA SCIENCE

- All BEng programmes introducing data science elements
- BEng Electrical and Electronic with focus area *Data Engineering* introduced in 2020
 - ECSA accredited
 - As part of the BEng E&E with a focus on Data Engineering
 - Not common 1st year
 - Substantial statistics and computer science content
- PGDip and MEng (Struct) in Data Science

COMMON 1ST YEAR FOR ALL BENG

Except Data Engineering

1ST SEMESTER

1. **Engineering Maths 115**
2. **Applied Maths B124**
3. Eng Chemistry 123
4. Eng Drawings 123 or **Probability Theory and Statistics 114**
5. Eng Physics 113
6. Intercultural Communication 113

2ND SEMESTER

1. **Engineering Maths 145**
2. **Applied Maths B154**
3. Comp programming 143
4. Electrotechnique 143
5. Strength of Materials 143 or **Data Science 141**
6. **Programme-specific module**

EXTENDED CURRICULUM PROGRAMME (ECP)

- Bridging year followed by normal 4-year BEng programme
- Modules
 - Mathematics 186
 - Chemistry 176
 - Physics 176
 - Computer Skills 176
 - Scientific Communication Skills 116, 146
 - Preparatory Technical Drawings 146
 - University Practice in the Natural Sciences 176
- Required to proceed after 1st year
 - Pass all modules
 - Average mark above 65%

1ST YEARS' SUPPORT

- Normal offering
 - Lectures, tutorials, online material
 - Appointment to see lecturer
- Group learning sessions
 - After normal classes, facilitated by teaching assistant
- Video recordings of key topics
- Dean's lectures
- Educational psychologist
 - Anxiety, stress and study methods
- ~~Private, individual tutors~~

LANGUAGE POLICY

- 1st year: Parallel Medium
 - Separate Afrikaans and English classes in all subjects, except for electives in second semester
- 2nd year
 - Parallel medium: Large modules with multiple class groups
 - Other: Lectures in English, with support in Afrikaans
- 3rd year
 - Lectures in English, with support in Afrikaans
- 4th year
 - Lectures in English
- General
 - Textbooks all in English
 - **Tests/exams questions in English and Afrikaans**
 - 4th year Afrikaans on request
 - **Answers in Afrikaans or English**

ADVICE



SUCCESS FACTORS

- Aim to be a GOOD engineer
 - Learn to solve **new** technically **demanding** problems while under considerable **pressure**
- Learn that by **DOING** as many problems as possible yourself
 - Not mostly working through examples
 - Some group learning
- Aim to gain maximum knowledge!
- **Aim to do well (at least 60%)**
 - Not only to pass tests and modules with 50%

SUCCESS FACTORS

- Use the resources
 - Class attendance, review work
 - Take practicals and tutorials very seriously
 - Study the material before coming to class
 - Do many problems; red circle questions
 - Ask questions in class
 - Talk to your lecturers & tutors
 - Form study groups
- **Keep up**
 - There will not be time to catch up

WHAT DO WE EXPECT?

- 15 credit module \Rightarrow 150 hours of work in total over a semester
- Time budget per lecturing week
 - 32 hr in contact sessions
 - 16 hr after hours
- Test week (A1) per 15 credit module
 - 12 hr preparation
 - 2 hr writing
- Exam (A2) per 15 credit module
 - 18 hr preparation
 - 3 hr writing

WHAT DO WE EXPECT?

- That students should ...
 - Work 5 evenings per week, 3 hours per evening
 - Start studying at 19:30
 - On weekend: also 3-4 hours preparation for Monday → *That adds up to 50 hours per week!*
 - Keep up with the work
 - Do not waste time during the day
 - Relax - daily between 17:00 and 19:30
 - Maintain lifestyle (social, exercise, spiritual...)
- Weekends, public holidays, vacations:
 - Take time off - if up to date
 - Otherwise: weekends = catch up time!

SECRET: Time management for a healthy balance

SOME CHALLENGES

- Emotional problems/depression
 - Negative emotions
 - Irritable or always tired
 - Cannot sleep and difficult to concentrate
 - Change in appetite or weight
 - Depression
- Seek help at
 - Faculty's educational psychologists
 - contact Ms Natalie White
 - Centre for Student Counselling and Development (CSCD/SSVO)!



RESOLVING CLASS/PERSONAL PROBLEMS

- If a class has a problem:
 - **Class representative** speaks to the lecturer(s) or Dean
 - Speak to the Engineering Student Council
 - Once per semester class reps meet Dean and lecturers
- If you have a problem
 - Speak to the lecturer
 - Speak to Ms Natalie White
 - Make an appointment to see the Dean
 - Visit the educational psychologist or Centre for Student Counselling and Development (CSCD)
 - **Take responsibility** to solve problems before asking parents to help
- Do not wait until the problem becomes a crisis

IMPORTANT INFORMATION



IMPORTANT INFORMATION

eng.sun.ac.za

Newsletter with important info

Textbooks

The screenshot shows the website eng.sun.ac.za/first-year-students/. The page features a navigation menu with options like 'ABOUT US', 'NEWS', 'PROSPECTIVE STUDENTS', 'CURRENT STUDENTS', 'DEPARTMENTS', 'RESEARCH', 'STAFF', and 'CONTACT'. A dropdown menu is open under 'CURRENT STUDENTS', listing 'MySUN', 'First-Year Students', 'Engineering Calendar 2024', '2024 Registration Rules (non-first year BEng)', 'Language Policy and Implementation Plans', 'FIRGA (Timetable)', and 'Ethics Applications'. The main content area includes a '2024 First-Year Engineering Student:' heading and a grid of resource buttons such as 'SU's Welcoming Programme', 'Assessment Rules', 'Newsletter for First-Year Students', 'Guide to timetable | Gids ne klasrooster', 'Textbooks | Handboeke', 'Computer recommendations | Rekenaar aanbevelings', 'YouTube', 'US se Verwelkomingsprogram', 'Assesseringsreëls', 'Nuusbrief vir Eerstejaarstudente', 'EDP Welcoming Lecture - tbc', 'EDP Groups - tbc', 'EDP Study Guide - tbc', and 'Bursary Information'. Arrows from the text on the left point to the URL, the 'First-Year Students' dropdown item, the 'Newsletter for First-Year Students' button, and the 'Textbooks | Handboeke' button.

TIMETABLE AND GROUP ALLOCATIONS

- Group allocations will be done on **before classes start on 12 February**.
 - Please register before then.
 - **NB:** select the correct language preference for teaching upon registration.
- Your personal timetable, per group allocations, will be available on **My.SUN on Sunday, 11 February**.
- Obtain your class timetable **BEFORE** classes start on **Monday, 12 February**.
- Stay in your groups you were allocated to for the whole year.
- An example of the personal timetable can be found here:
 - www.eng.sun.ac.za | [Current Students](#) | [First-Year students](#) | [Guide to Timetable](#)

GROUP ALLOCATIONS - Make sure to check your timetable one day before classes start.

GROUP	STUDENTS' LANGUAGE STUDENTS' PROGRAMME	VENUE
1	Afrikaans: All programmes	S2001
2 2	English: Civil Eng English: Industrial Eng (surnames A - R)	S2024
3 3	English: Electrical & Electronic Eng (incl Data Eng) English: Mechanical Eng	A1001
4 4 4 4	English: Mechatronic Eng English: Chemical Eng English: Industrial Eng (surnames S - Z) English: BSc Forestry & Wood Sciences	S1018

IMPORTANT INFORMATION

- **MY.SUN.AC.ZA**
(not for ECP students)

The screenshot shows the My.SUN website interface. At the top, there is a navigation bar with the Stellenbosch University logo, the text "My.SUN", and dropdown menus for "Undergraduate", "Postgraduate", "Staff", and "Researcher". The language is set to "en". Below the navigation bar, there is a row of service tiles: SUNLearn, e-Registration, Application Postgraduate study, Manage Password, Student Account, and Students with Disabilities. A yellow arrow points to the "Undergraduate" dropdown menu. Below this is a "Filter links..." search bar. A horizontal menu contains "GENERAL", "STUDIES" (highlighted in orange), "FINANCES", "ACCOMMODATION", and "ADMINISTRATION". Below this menu is a grid of 16 service tiles. A yellow arrow points to the "Class Timetable (all modules)" tile. The tiles include: SUNLearn, Yearbook (Calendar), Student feedback, Library, Class Timetable (Information), Class Timetable (all modules), Application Postgraduate study, Class Timetable (First Years), Class Timetable (per module), Translation of module names, Exam Timetable, Tests and Exams: Policy and Information, Tests and exams timetable/venues, Exam locations, Exam Results, and Graduation Information.

SUNLEARN: YOUR MOST IMPORTANT SOURCE OF INFO

- <http://learn.sun.ac.za>

- Modules are automatically added a day or two after registration
 - Problems: contact info at bottom of landing page
- **Login:** student number
Password: your email password
- **DO NOT GIVE YOUR PASSWORD** to anyone else
 - You will be breaking your promise to abide by the SU IT policy

EMAIL: YOUR SECOND MOST IMPORTANT SOURCE OF INFO

- <http://www.sun.ac.za/webmail>

- **MUST** check your @sun.ac.za email regularly
 - The Faculty uses **ONLY** this address to communicate with you
- When communicating with staff: **ONLY** use this email address

SAFETY

Stellenbosch probably not more dangerous than any other town in South Africa, but...

- Please take reasonable safety precautions
 - Major risk:
 - Pub crawls and then vulnerable to crime
- Don't walk around alone late at night
 - Especially not in isolated spots!
 - Form and move in groups
 - Call Campus Security

CAMPUS SECURITY

- Emergency number: **021 808 2333**
- WhatsApp: **082 808 2333**
- Enquiries / Reporting / Pedestrian service: **021 808 4666**

IN CONCLUSION

If *you* need help or advice, contact the Dean's office:

021 808 4204

engdean@sun.ac.za

To schedule an appointment with an educational psychologist, contact Ms Natalie White

natalies@sun.ac.za | 021 808 3614

May you be successful!

For a copy of the presentation, please request by e-mail to natalies@sun.ac.za



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Thank you
Enkosi
Dankie