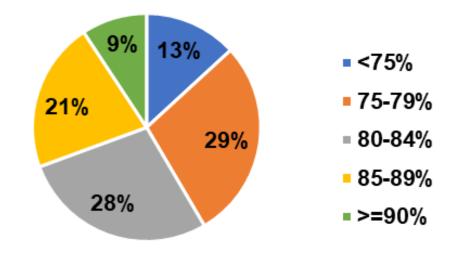


CONGRATULATIONS

- Your child's Matric results were excellent
- Your child is one of a select group
 - More than 5 000 applications for 790 places
 - 64% of our first-year students had
 Matric average ≥80%

Matric Averages 2022 Cohort





TODAY'S TALK

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



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 child!
- We are going to tell you what we are going to tell them during the Dean's periods so that you
 - Can join us in supporting them
 - Will also know what we expect of them



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 Period"
 - 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 Plesses
 - Arrange appointments through Ms Natalie White

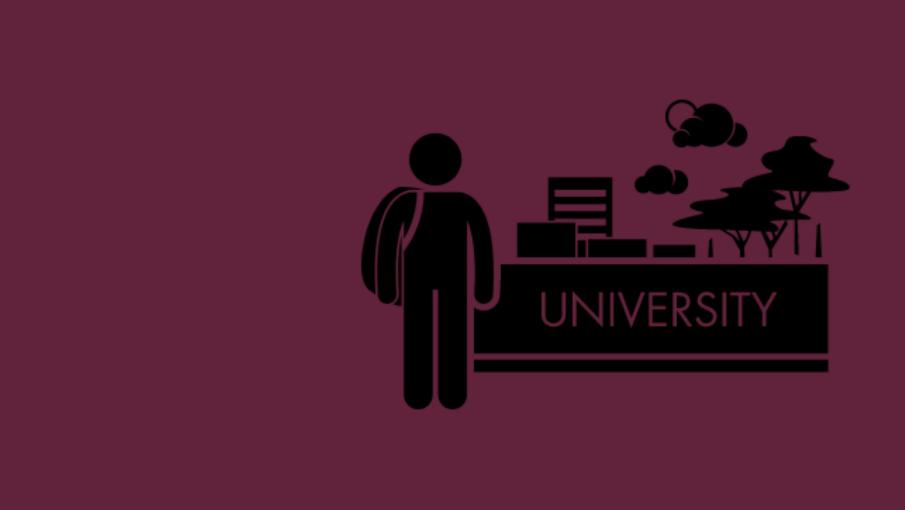






BACKGROUND ABOUT THE FACULTY





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
- Will be 80 years old in 2024
- 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 **Prof JL (Wikus) van Niekerk** (021) 808 4204 engdean@sun.ac.za



Vice-Dean (Teaching)
Prof Celeste Viljoen
(021) 808 4444
celesteviljoen@sun.ac.za



Student Support Ms Natalie White (021) 808 3614 natalies@sun.ac.za



Chemical Engineering
Prof Christie Dorfling
(021) 808 4494



Faculty Director Mr Enzo D'Aguanno (021) 808 4986 vsd@sun.ac.za



Student Recruitment Mr August Engelbrecht (021) 808 3947 august@sun.ac.za



Civil Engineering **Prof Nico de Koker** (021) 808 4434 civil hod@sun.ac.za



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



Vice-Dean (Research)
Prof Petrie Meyer
(021) 808 4322
pmeyer@sun.ac.za



Faculty Administrator **Ms Nicole Hartzenburg** (021) 808 4835 nicolepa@sun.ac.za



Industrial Engineering **Prof Corne Schutte** (021) 808 4234 industrial@sun.ac.za



Electrical & Electronic Engineering
Prof Herman Engelbrecht
(021) 808 2139
ee@sun.ac.za



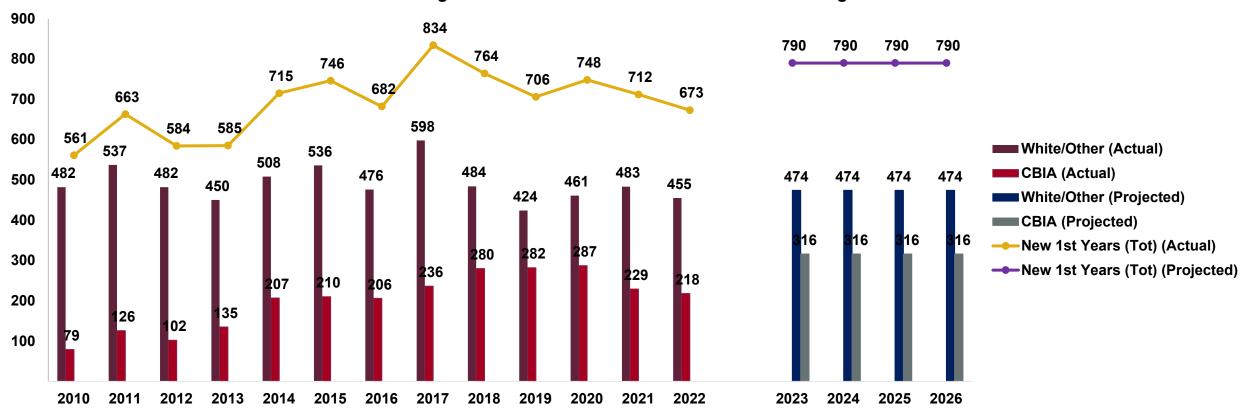
ENGINEERING FACULTY STATISTICS

- Some numbers (2022)
 - 2 900 undergraduate students
 - 1 200 postgraduates (~29%)
 - Graduates: 594 BEng, 223 Master's and 57 PhD's (Dec 2021 & March 2022)
- Typical intake of about 750 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



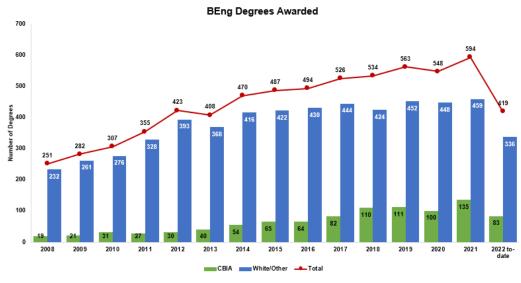
ENGINEERING FACULTY STATISTICS



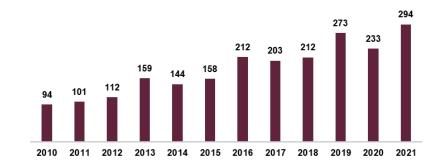




ENGINEERING FACULTY STATISTICS



Faculty of Engineering Publication Units Delivered





UNDERGRADUATE PROGRAMMES





ACCREDITATION: ALL OUR BENG PROGRAMMES

- Engineering Council of South Africa
 - Registration as a Professional Engineer



 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 <u>Data Engineering</u> 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

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 DEGREE PROGRAMME

- 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 periods
- 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



COMPUTERS

- Students do not need their own PCs/laptops
 - All have 24hr access to computers and legal software!
 - A first year student needs nothing more than a simple pocket calculator, such as the one used at school / Faculty's standard one
- But it is convenient to have a computer or tablet at residence to access online learning material
 - But must be used responsibly
 - Must register with IT to get onto SU Network



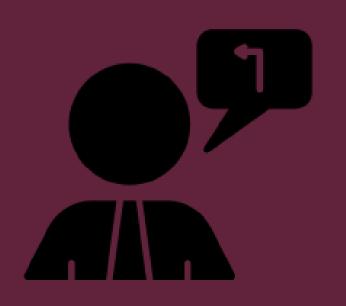
TEXTBOOKS

- Textbooks
 - Pre-ordered by the Faculty of Engineering
 - Students order textbooks at Faculty
 - Books: 1st Sem~R4 000, 2nd Sem~R4 500
 - Dependant on the exchange rate
 - Paid for via student account
- Drawing instruments
 - R 2095 buy at Unistat in the Neelsie
 - Or second-hand from senior students or continue to use the kit that you've used at school



ADVICE





YOUR FEARS AS PARENTS/GUARDIANS

- People say
 - Engineering is difficult
 - University costs a lot of money
- Will my child
 - Study successfully?
 - Maintain the right balance between work and play?
 - Adapt to large classes, fast pace and high workload?
- We all want a world-class qualification
- Therefore we expect
 - Hard work
 - Discipline: We strictly apply our rules
 - Maturity
 - Accept responsibility
- Obtaining the BEng should be the #1 priority at Stellenbosch



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 <u>before</u> coming to class
 - Do many problems; red circle questions
 - Ask questions in class; don't be shy!
 - 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
 - $\rightarrow \rightarrow \rightarrow \rightarrow$ 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!

Stellenbosch
UNIVERSITY
IYUNIVESITHI
UNIVERSITEIT

THE REWARD ...

 A reputable degree qualification that is recognised widely, in SA and abroad

The ability to solve technical problems

• The ability to make a success of a wide variety of jobs, also to create one's own job or start a new company



EARLY SIGNS OF PROBLEMS

- BEng in more than 4 years?
 - First-year average 50-55%
 - Often passes modules with 50%
 - Write A3 (supplementary assessments)
 - More than 20% down from school marks
 - Downward trend
 - Relax in 2nd semester/2nd year
 - Reluctant to ask questions and not working in small groups
 - Not talking about academic problems



EARLY SIGNS OF PROBLEMS

- 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)!







RECIPE FOR FAILURE

- Engineering not what you want to do
- Only wants a BEng degree, not developing yourself to be a good engineer
- High School attitude to work
 - Chasing marks, not understanding
 - Learning mainly by studying examples
 - Working out old exam papers
 - Poor study approach
- Poor self-discipline



RECIPE FOR FAILURE

- Wrong priorities
 - Excessive res loyalty
 - Excessive sports commitments
 - Excessive ... (e.g., A Capela singing competition)
 - Computer games & TV series
 - Wrong friends who study too little
 - Too much pocket money
- Relational problems
 - Relationship problems (room mate, boyfriend, girlfriend)
 - Stress about problems at home
 - Excessive family commitments
- Alcohol abuse



RECIPE FOR FAILURE

- Working unwisely
 - Insufficient sleep
 - Inefficient use of time
 - Not using lectures or face-to-face opportunities
 - Not using other support offered
 - Cramming before test/exam
 - Social media on while "studying"



OTHERWISE...

- Unsatisfactory progress \rightarrow not allowed to continue because no reasonable chance of graduating BEng
 - After 1st year:
 - At least 60% of the 1st year's credits passed
 - At least 2 of the mathematics subjects passed
 - Every year thereafter:
 - Threshold increases by 70% of a full year's credits
- Must earn degree within 6 years
 - Only one chance for a GOOD study record
 - Shouldn't come to university to play!



PARENTS'/FAMILY'S CONTRIBUTION

- You can contribute
 - Maintain contact with your child
 - Encourage your child
 - Ensure that you know how he/she is progressing
 - Encourage him/her to aim high
- We will try to keep you informed
 - POPI Act limits what we can share with parents

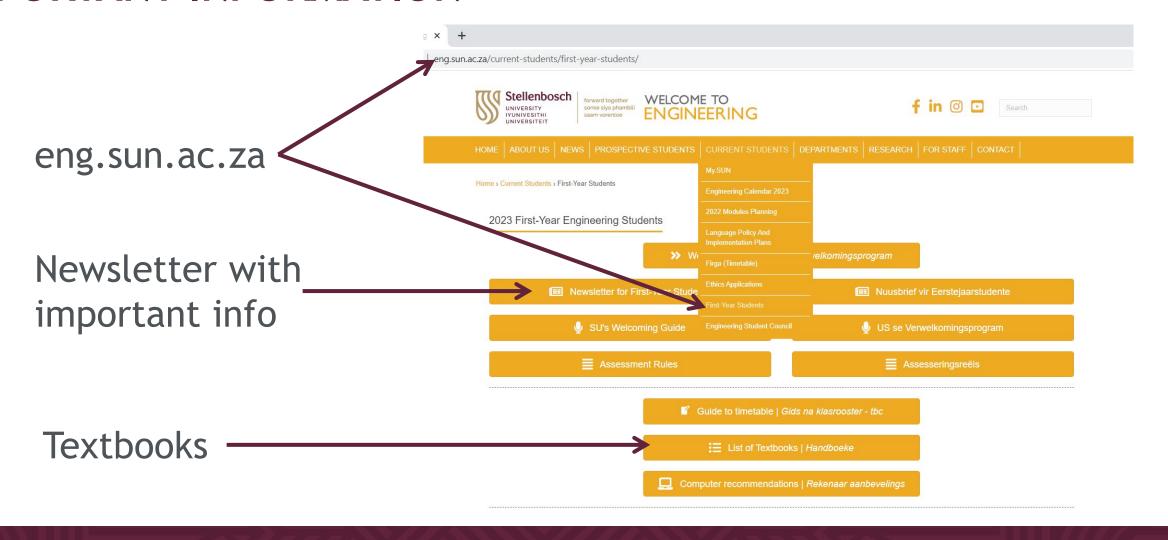


RESOLVING CLASS/PERSONAL PROBLEMS

- 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 your child has a problem: Let him/her
 - Speak to the lecturer
 - Speak to Ms 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



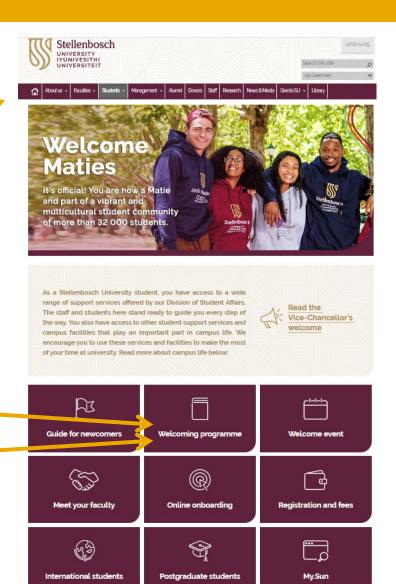


WELCOMING PROGRAMME

Visit the Maties Welcoming page:

http://www.sun.ac.za/english/welcome/Pages
/default.aspx

- For Mainstream Welcoming information visit the Welcoming programme
- For **EDP Welcoming** information visit the Welcome guide (page 44)





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
- Female students shouldn'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 our students all be successful!

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



