

Verwelkoming van nuwe Eerste-Jaar Ingenieur- studente

Welcoming of new First-Year Engineering Students

8 March 2021

Prof Wikus van Niekerk
Dean

Prof Celeste Viljoen
Vice-Dean: Teaching



Congratulations

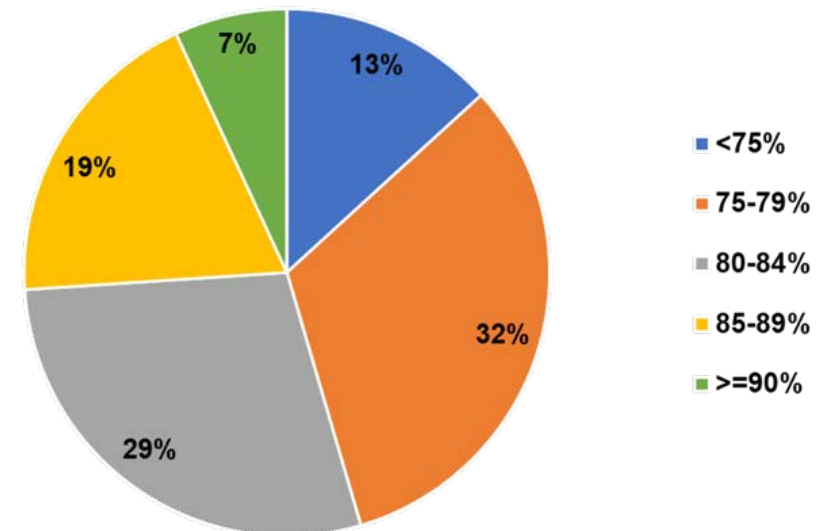


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- Your Matric results were excellent
- You are part of a select group
 - More than 4 600 applications for 750 places
 - 55% of our first-year students have Matric average $\geq 80\%$

Matric Averages 2020 Cohort



ENGINEERING
EZOBUNJINI
INGENIEURSWESE

Today's Talk

- Background about the Faculty
- Undergraduate programmes
- Some Advice



Today's Talk

- We want all 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
 - “Father” for the 1st year students
- The Dean regularly meets 1st years
 - Every Monday, whole first semester: “Dean’s Period”
 - Part of the Intercultural Communication module, this year online with a joint discussion session
 - 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 Avril Ford (aford@sun.ac.za)



- Mr August Engelbrecht (august@sun.ac.za)



- Two educational psychologists (part time)
 - Arrange appointments through Ms Avril Ford



Background about the 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
- **75 years old in 2019**
- First Afrikaans Engineering Faculty in South Africa, now multilingual
- Track record for producing excellent undergraduate students
- Outstanding research record in co-operation with industry



Organogram

Dean of Engineering
Prof Wikus van Niekerk
(021) 808 4204
engdean@sun.ac.za



Vice-Dean (Teaching)
Prof Celeste Viljoen
(021) 808 4444
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Faculty Director
Mr Enzo D'Aguzzo
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Vice-Dean (Research)
Prof Petrie Meyer
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Student Support
Ms Avril Ford
(021) 808 3614
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Student Recruitment
Mr August Engelbrecht
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Faculty Administrator
Ms Nicole Hartzenburg
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Industrial Engineering
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Civil Engineering
Prof Gideon van Zijl
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Process Engineering
Prof Christi Dorfling
(021) 808 4494
chemengchair@sun.ac.za



Electrical & Electronic Eng
Prof Herman Engelbrecht
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Mechanical & Mechatronic Eng
Prof Kristiaan Schreve
(021) 808 4374
mmchair@sun.ac.za





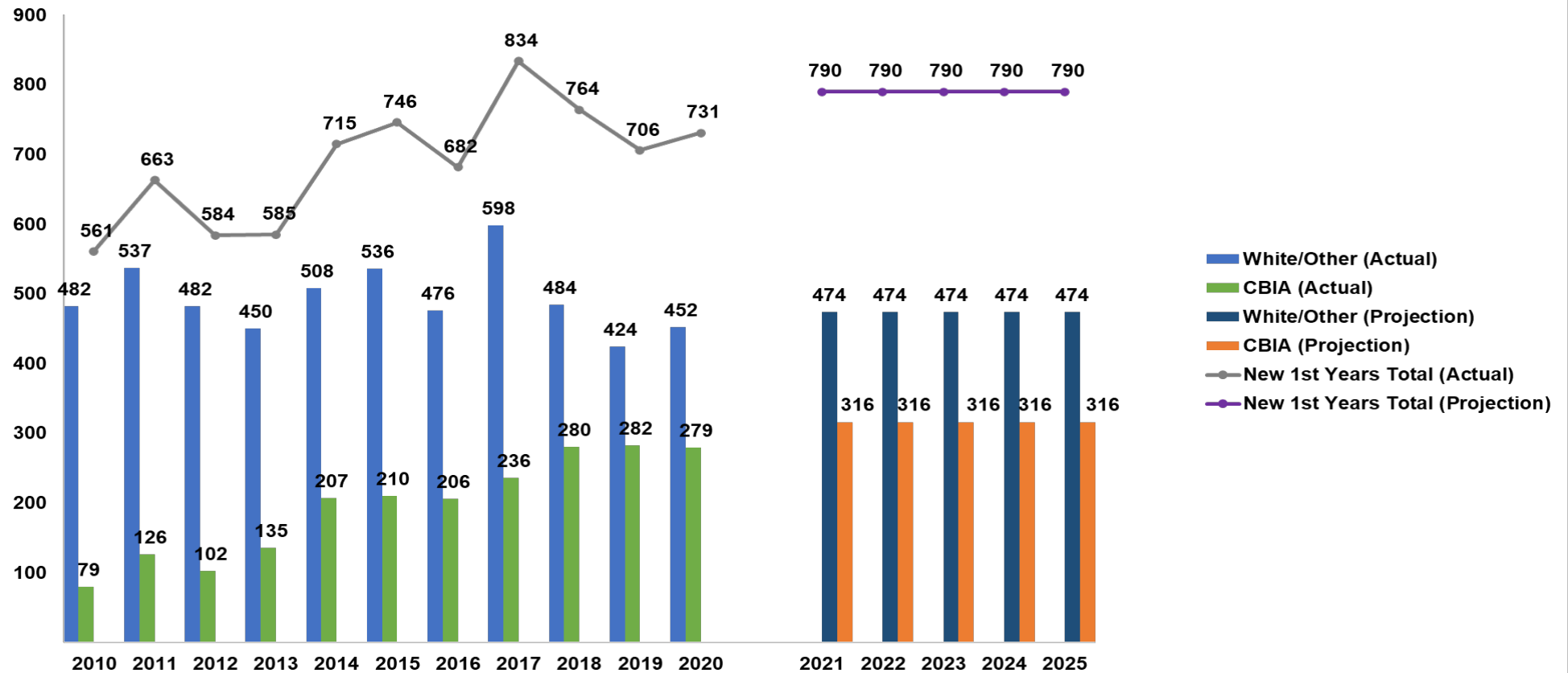
- Some numbers (2020)
 - 3 000 undergraduate students
 - 900 post graduates (~23%)
 - Graduates: 562 BEng, 217 Master's and 60 PhD's (Dec 2019 & March 2020)
- Typical intake of about 750 (~780) first years
 - UG success rate of 75% (graduate after 4-6 years)
 - South Africa average 44%
 - About half of BEng 1st years graduates in 4 years



Engineering Faculty Statistics



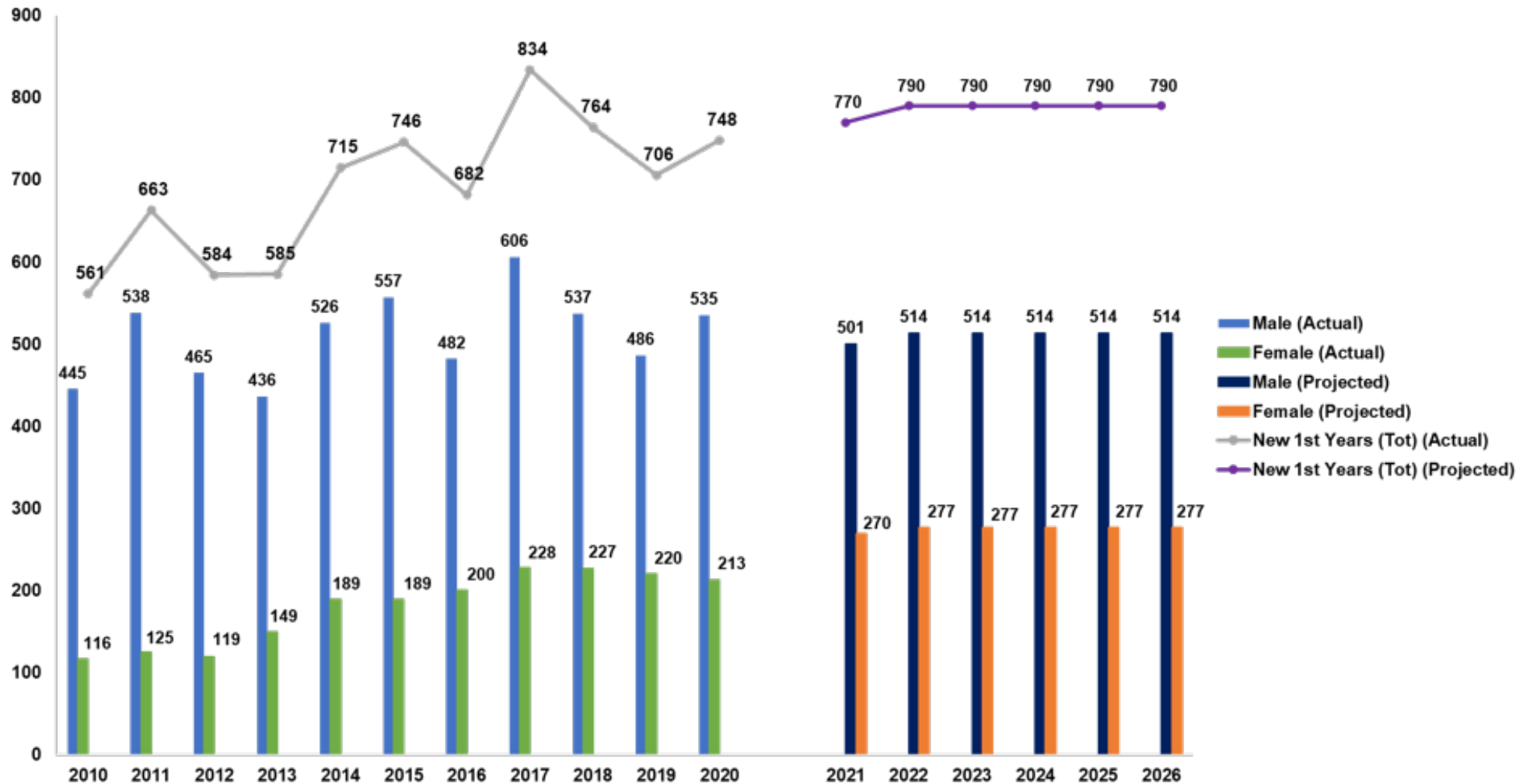
BEng New First Year Growth and Enrolment Planning



Engineering Faculty Statistics



B.Eng New First Year Growth and Enrolment Planning





Undergraduate Programmes



Accreditation: **All our BEng Programmes**



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100
1918 · 2018



- Engineering Council of South Africa

- Registration as Professional Engineer



- Washington Accord

- Meet educational requirements in USA, Canada, Ireland, UK, Australia, Hong Kong, Japan, Korea, New Zealand, Russia, Malaysia, Singapore, Turkey



- All BEng programmes introducing data science elements
- BEng Electrical and Electronic with focus area **Data Engineering** introduced 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



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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 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
 - Online lectures
 - Face to Face session for tutorial/discussion classes/practicals
 - 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 interpretation into Afrikaans
- 3rd year
 - Lectures in English, with support in Afrikaans
- 4th year
 - Lectures in English
- General
 - Text books 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%



**TIME
MANAGEMENT**

SELF DISCIPLINE



Success Factors

TIME MANAGEMENT
SELF DISCIPLINE

- 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; don't be shy!
 - Talk to your lecturers & tutors
 - Form study groups
- **KEEP UP**
 - There will not be time to catch up



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 Ford (aford@sun.ac.za)
 - 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 personal problem:
 - Speak to the lecturer
 - Speak to Ms Ford
 - Make an appointment to see the Dean
 - Visit the educational or clinical psychologists at CSCD
 - **Take responsibility** to solve problems before asking parents to help
- Do not wait until the problem becomes a crisis



Important Information



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 Numbers



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



Another Year of Covid

- To protect our Staff and Students is a **shared** responsibility
- It is very important that we adhere to the Covid protocols, not only on campus and in in our residences, but everywhere we go
- The University wants to ensure that we can proceed with some face-to-face interactions without compromising the health and safety of our students and staff



Another Year of Covid



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So Please:

- Wear your mask (#maskup)
- Wash/sanitise your hands (#sanitise)
- Keep your distance (#avoidcontact)



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 a psychologist, contact Avril Ford

 021 808 3614

 aford@sun.ac.za

May you all be successful!

For copy of presentation, please request by email to aford@sun.ac.za



Make sure to follow us on **Social Media.**

