

# Bekendstelling aan Ouers van Ingenieurstudente

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## *Presentation to Parents of Engineering Students*

4 March 2021

Prof Wikus van Niekerk  
Dean

Prof Celeste Viljoen  
Vice-Dean: Teaching



# Congratulations

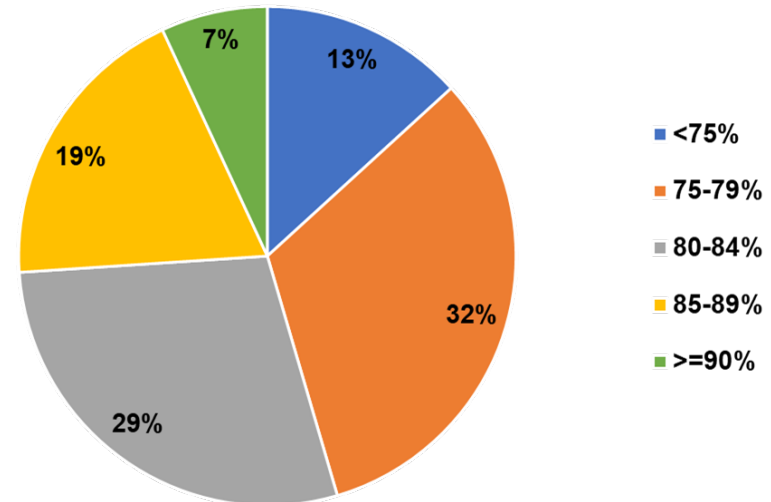


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- Your child's Matric results were excellent
- Your child is one of a select group
  - More than 4 600 applications for 750 places
  - 66% of our first-year students have Matric average  $\geq 80\%$

Matric Averages 2020 Cohort



ENGINEERING  
EZOBUNJINELI  
INGENIEURSWESE

# Today's Talk



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- Background about the Faculty
- Undergraduate programmes
- Advice
- Important announcements
- 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



- Prof Wikus van Niekerk
  - General management of the Faculty
  - “Father” for the 1<sup>st</sup> year students
- The Dean regularly meets 1<sup>st</sup> 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 Avril Ford



- Mr August Engelbrecht



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



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# 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

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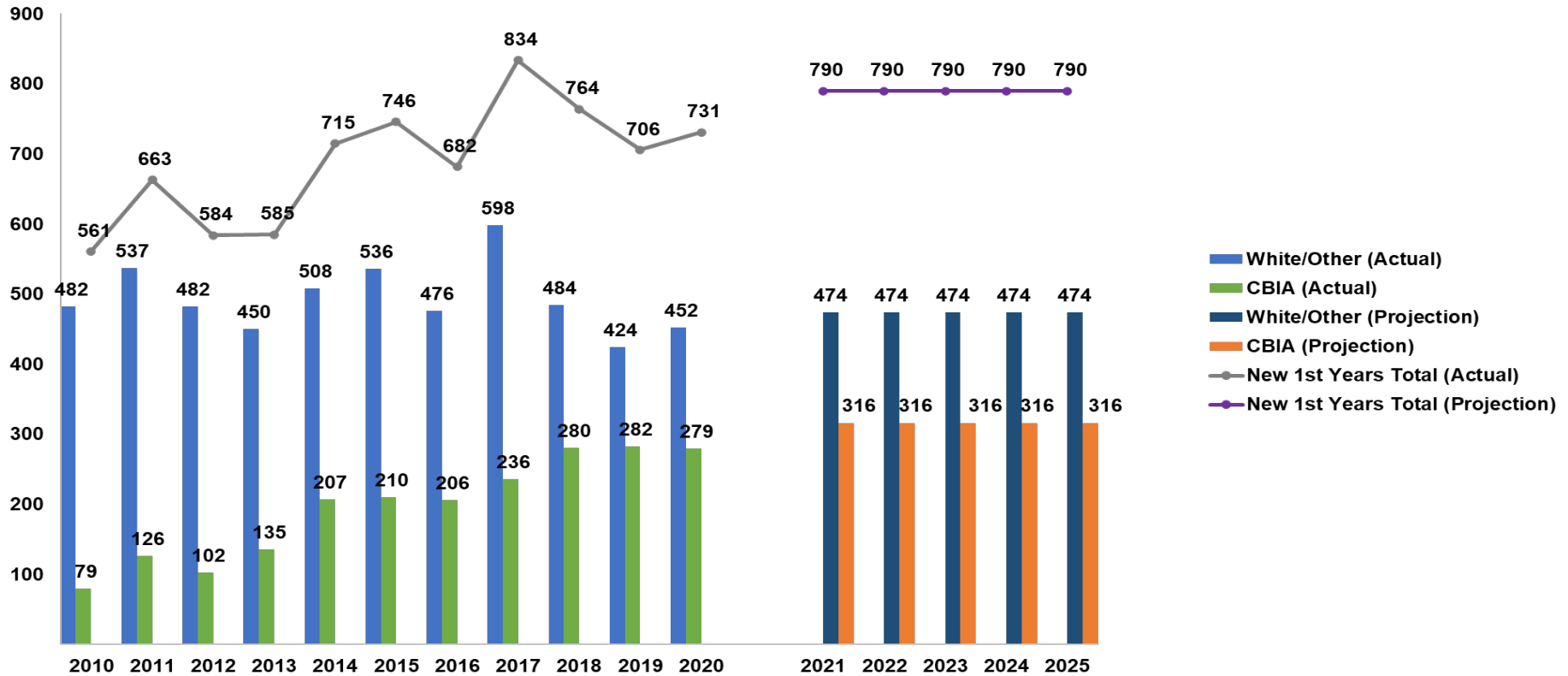
- Some numbers (2020)
  - 3 000 undergraduate students
  - 900 post graduates (~23%)
  - Graduates: 562 BEng, 217 Master's and 60 PhD's (Dec 2019 & March 2020)
- Typical intake of about 750 (~780) first years
  - UG success rate of 75% (graduate after 4-6 years)
  - South Africa average 44%
  - About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



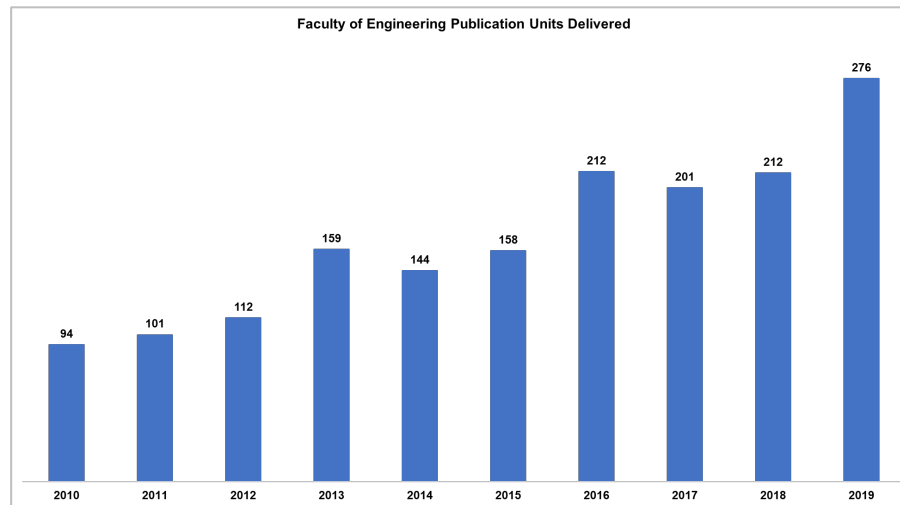
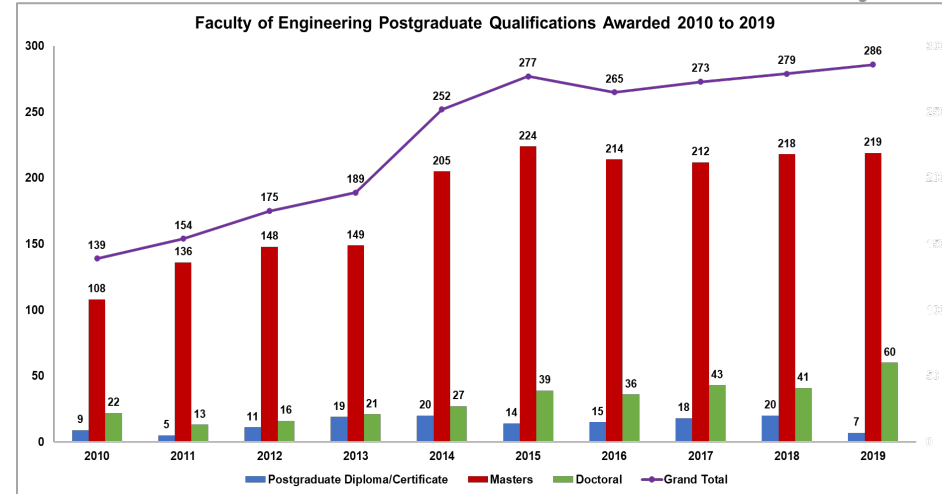
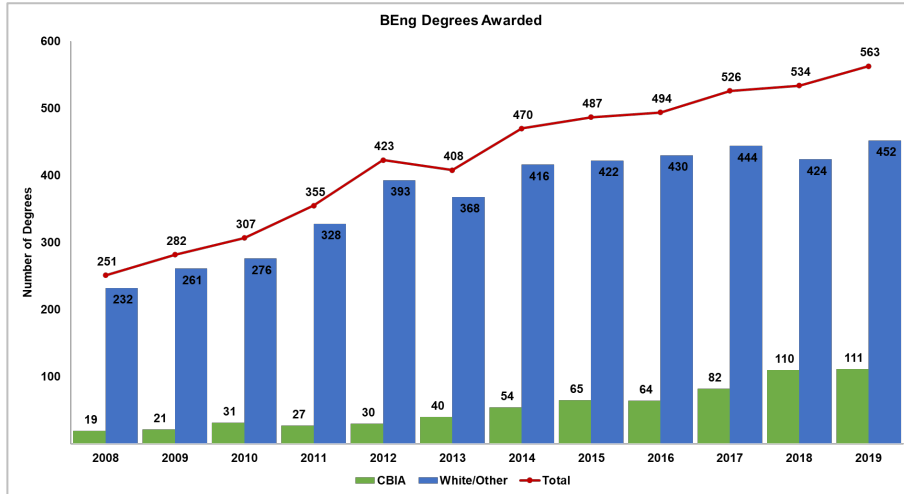
# Engineering Faculty Statistics



### BEng New First Year Growth and Enrolment Planning



# Engineering Faculty Statistics



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# Undergraduate Programmes



# Accreditation: **All our BEng Programmes**



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- 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 1<sup>st</sup> 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*

## 1<sup>st</sup> 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

## 2<sup>nd</sup> 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**

- 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 1<sup>st</sup> year
  - Pass all modules
  - Average mark above 65%



# 1<sup>st</sup> Years' Support



- Normal offering
  - Lectures, tutorials
  - 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



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



- 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
  - Pre-ordered by Engineering Faculty
  - Students order textbooks at Faculty
    - Books: 1<sup>st</sup> Sem~R3 700, 2<sup>nd</sup> Sem~R3 900
      - Dependant on the exchange rate
    - Paid for via student account
- Drawing instruments
  - R2 100; buy at Unistat in the Neelsie
  - Or second hand from senior students





# Advice

# Your Fears (?) as Parents



- 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?





*“It has to come from both parties”*



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- 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



- 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

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**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



# We Expect ...



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



# We Expect ...



- That students should ...
  - Work 5 evenings per week, 3 hours per evening
    - Start studying at 19h30
  - 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 en 19:30
    - Maintain life style (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**



# 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 yrs?
  - First year average 50-55%
  - Often passes with 50%
    - Write A3 (supplementary assessments)
  - More than 20% down from school marks
  - Downward trend
  - Relax in 2<sup>nd</sup> semester/2<sup>nd</sup> 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 Ford
  - Centre for Student Counselling and Development (CSCD/SSVO)!

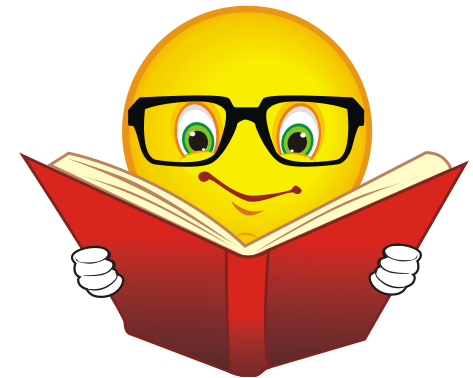




# Recipe for Failure



- Engineering not what you want to do
- Only wants a BEng degree certificate, not developing self 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



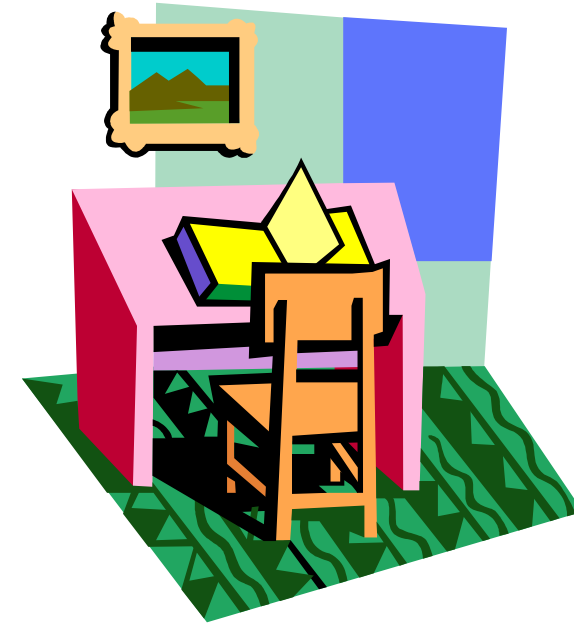
- Wrong priorities
  - Excessive res loyalty
  - Excessive sports commitments
  - Excessive ... (e.g. Acapela competition)
  - Computer games & TV series
  - Wrong friends who study too little
  - Too much pocket money
- Relational problems
  - Relationship problems (room mate, boyfriend, girlfriend)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



# Recipe for Failure



- Working unwisely
  - Insufficient sleep
  - Inefficient use of time
  - Not using lectures
  - Not using other support offered
  - Cramming before test/exam
  - Social media on while “studying”



# Otherwise...



- Unsatisfactory progress → not allowed to continue because **no reasonable chance** of graduating B Eng
  - After 1<sup>st</sup> year:
    - At least **60%** of the 1<sup>st</sup> year's credits passed
    - At least **2** of the mathematical 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!



- 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



- 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 Ford
  - Make an appointment to see the Dean
  - Visit the educational psychologist or CSCD
  - **Take responsibility** to solve problems before asking parents to help
- Do not wait until the problem becomes a crisis





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# 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

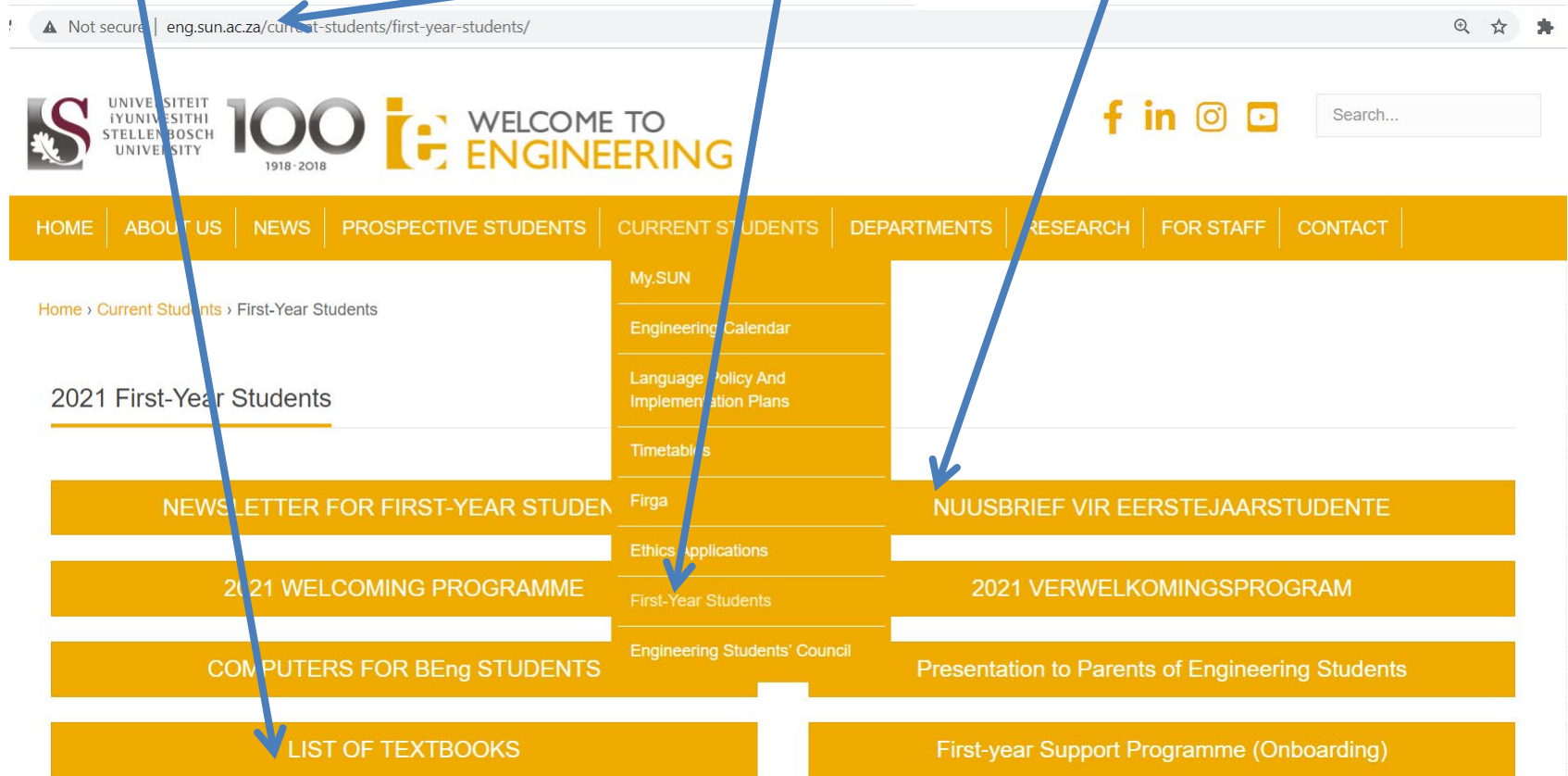


# Important Information

Text books

eng.sun.ac.za

Newsletter with important info



The screenshot shows the website [eng.sun.ac.za/current-students/first-year-students/](http://eng.sun.ac.za/current-students/first-year-students/). The page features a navigation menu with links: HOME, ABOUT US, NEWS, PROSPECTIVE STUDENTS, CURRENT STUDENTS, DEPARTMENTS, RESEARCH, FOR STAFF, CONTACT. A central sidebar menu lists: My.SUN, Engineering Calendar, Language Policy And Implementation Plans, Timetables, Firga, Ethics Applications, First-Year Students, Engineering Students' Council. The main content area includes: 2021 First-Year Students, NEWSLETTER FOR FIRST-YEAR STUDENTS, 2021 WELCOMING PROGRAMME, COMPUTERS FOR BEng STUDENTS, LIST OF TEXTBOOKS, My.SUN, Engineering Calendar, Language Policy And Implementation Plans, Timetables, Firga, Ethics Applications, First-Year Students, Engineering Students' Council, NUUSBRIEF VIR EERSTEJAARSTUDENTE, 2021 VERWELKOMINGSPROGRAM, Presentation to Parents of Engineering Students, and First-year Support Programme (Onboarding). Social media icons for Facebook, LinkedIn, Instagram, and YouTube are visible, along with a search bar.

# Welcoming Programme



- Engineering's welcoming programme starts on Monday March 8, at 08:00
  - Students meet the Dean (area in front of General Eng Building)
  - Students that still have to register are taken to registration room at NARGA (Admin A): include EDP, IEB and students from other foreign school systems.
- All first years must attend the Faculty's whole programme.
  - Mentors and advisors of residences are not allowed to keep first years from official welcoming programme
- First years will be informed how to order text books online during Computer orientation.
  - For collection of textbooks, please refer to the Welcoming Programme.  
Costs will be loaded on their student accounts
- Those who ordered drawing instruments must collect directly from UniStat stationaries in the Neelsie Student Centre (on campus).



# Welcoming Programme



## Please note: The following apply ONLY to the students on the Extended Degree Programme (EDP):

- **Monday March 8, 2021**
  - **08:00** – Join the BEng (Mainstream) students in front of the General Engineering Building for a meeting with the Dean. All students who did not yet register online will be accompanied to the Registration Venues at NARGA (Admin A)
  - **08:30 – 09:30:** – Assisted registration at NARGA (Admin A).
  - **11:30 – 12:30:** – Joint meeting with other EDP students from Natural Sciences and Agri-sciences. Please remember to **BOOK YOUR SEAT IN ADVANCE** to join this meeting by carefully following the instructions below: [You will be informed at this joint meeting about your textbooks, lecturers, timetables, lecture rooms, and other important information]

## Extended Degree Programme orientation (Science, AgriScience & Engineering)

- Facilitator: Dr Marnel Mouton
- Venue: Math Science **1005** (184)
  - [Click here to complete the booking form for face-2-face attendance. Once this venue is filled, please click on the link for room 3001, to book your seat there.](#)
  - [Room 3001: Click here to complete the booking form for face-2-face attendance](#)
- Click here to join the meeting online via [MS Teams link](#)
- **Monday March 8, 2021:**
- **From 14:00 onwards**, for the duration of the Welcoming Week, the EDP students will join the Mainstream students by following the published Welcoming Programme.

# In Conclusion



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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](mailto:aford@sun.ac.za)

## May your children all be successful!

For copy of presentation, please request by email to [aford@sun.ac.za](mailto:aford@sun.ac.za)



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