

Bekendstelling aan Ouers van Ingenieurstudente

Presentation to Parents of Engineering Students

23 January 2020

Prof Wikus van Niekerk
Dean

Prof Anton Basson
Vice-Dean: Teaching



Congratulations

- Your child's Matric results were excellent
- Your child is one of a select group
 - 3 200 applications for 770 places
 - 66% of our first-year students have Matric average $\geq 80\%$
 - 2019 intake who wrote matric in 2018



Today's Talk

- 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



Dean of Engineering



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UNIVERSITY



- 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 Professional 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



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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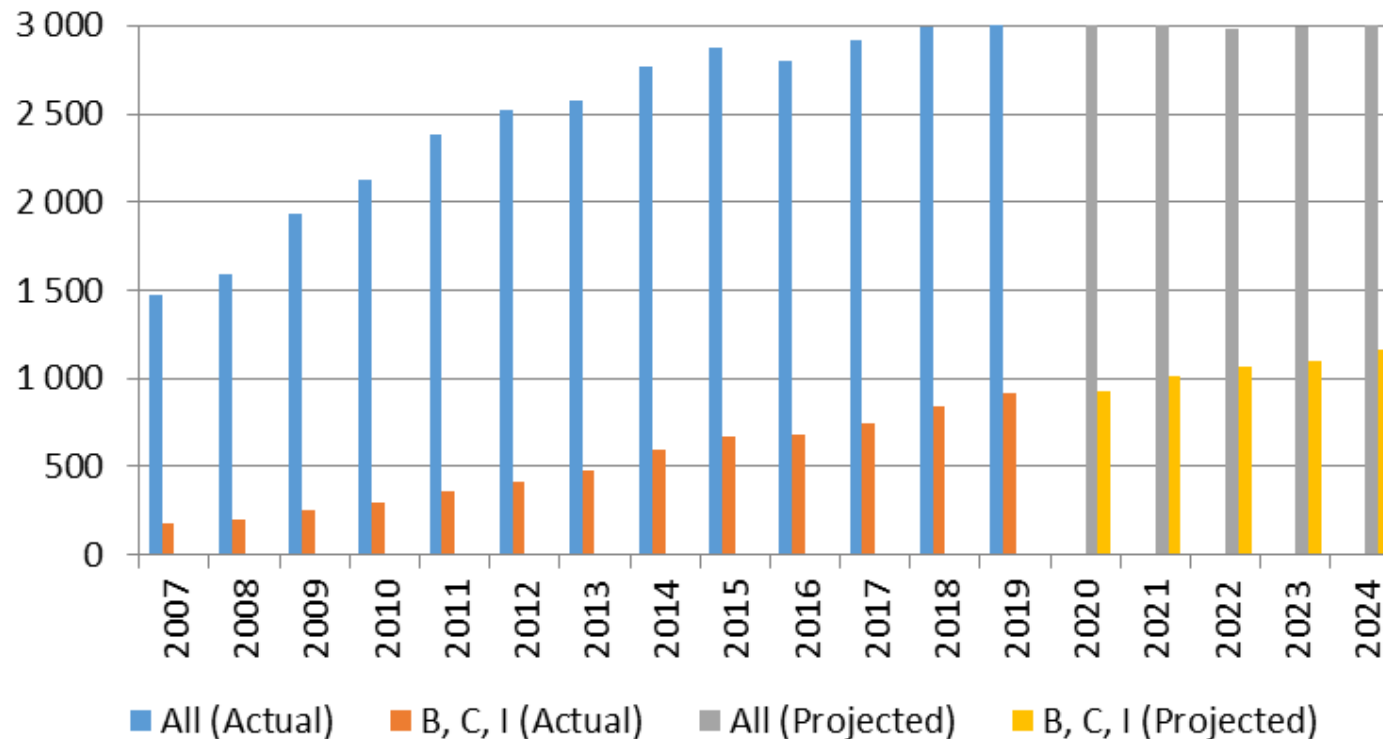


- Some numbers (2019)
 - 3 019 undergraduate students
 - 912 post graduates (~23%)
 - Graduates: 560 BEng, 216 Master's and 54 PhD's (March & Dec 2019)
- Typical intake of about 720 first years
 - Degree success rate between 70% and 75%
 - South Africa average 44%
 - About half of BEng 1st years graduates in 4 years





SU Engineering Undergraduate Enrollments

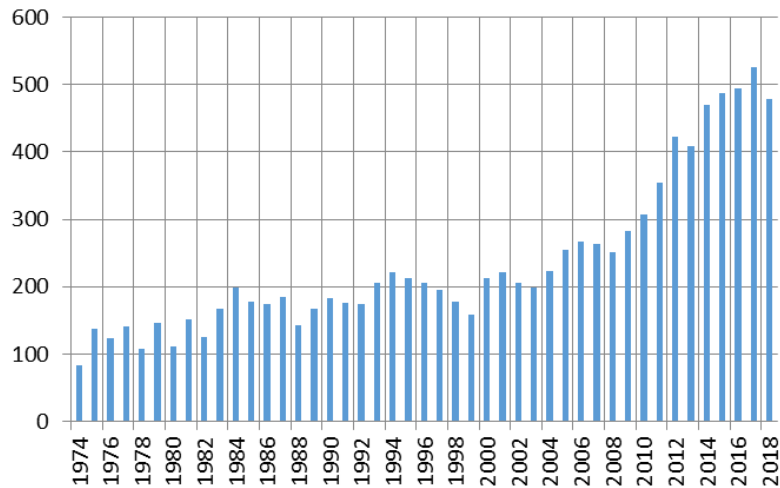


Excluding data engineering

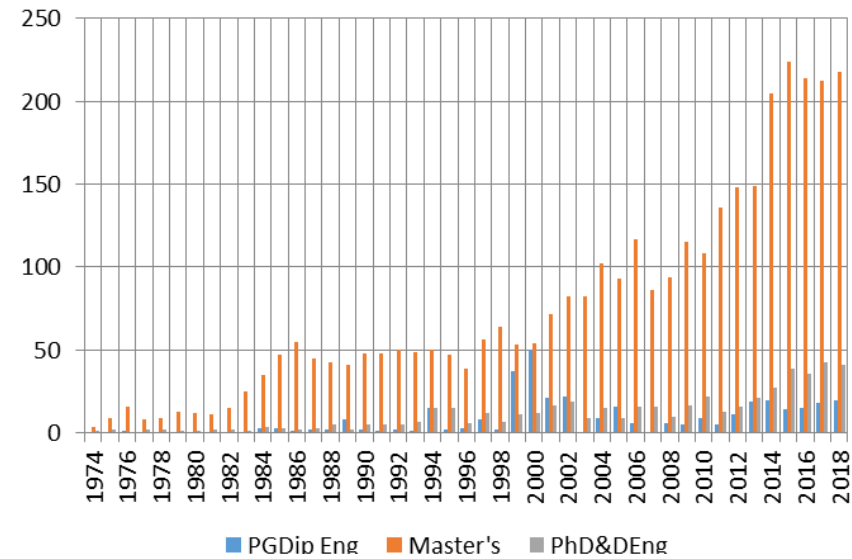


Engineering Faculty Statistics

BEng Degrees

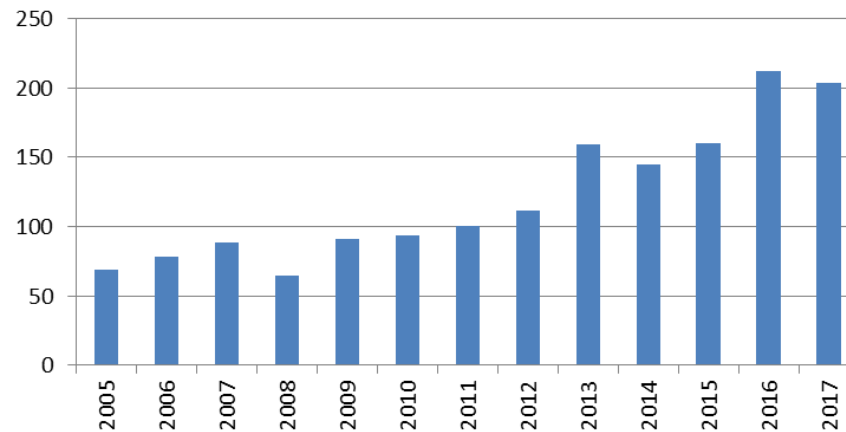


Postgraduate Qualifications



note: 2019 graduations not available until March 2020

Publication Units



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
 - with the other BEng E&E focus areas
 - 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 Drawing 123 *or*
**Probability Theory and
Statistics 114**
5. Eng Physics 113
6. Professional
Communication 113

2nd semester

- 1. Engineering Maths
145**
- 2. Applied Maths B154**
3. Computer program
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 1st year
 - Pass all modules
 - Average mark above 65%



1st 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

- 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



- Students do not need their own PCs/laptops
 - All have 24hr access to computers and *legal software!*
 - *New enlarged FIRGA in service by July 2020*
 - 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: 1st Sem~R3 300, 2nd Sem~R3 600
 - Paid via student account

- Drawing instruments

- R1 800; buy at Unistat in the Neelsie
- Or second hand



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



- 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%



**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



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 2nd semester/2nd year
 - Reluctant to ask questions and not working in small groups
 - Not talking about academic problems



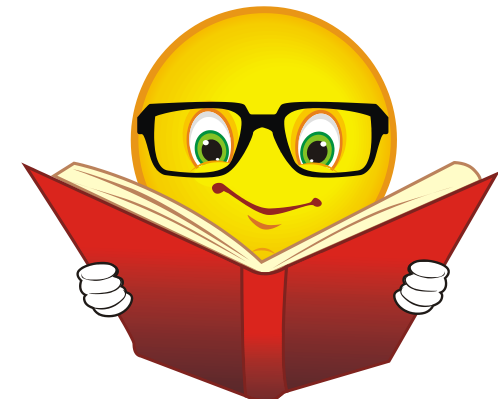
Early signs ... of problems

- 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 Ford
 - Centre for Student Counselling and Development (CSCD/SSVO)!



Recipe for failure

- Engineering not what you want to do
- Only wants a B Eng 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



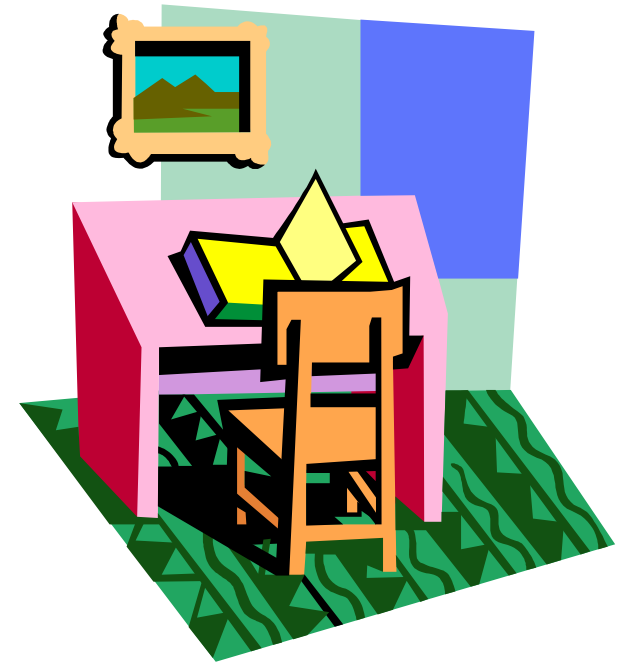
Recipe for failure

- Wrong priorities
 - Excessive res loyalty
 - Excessive sports commitments
 - Excessive ... (e.g. Acapela competition)
 - Computer games & TV series
 - Wrong friends who study to 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 1st year:
 - At least **60%** of the 1st 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



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 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



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



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

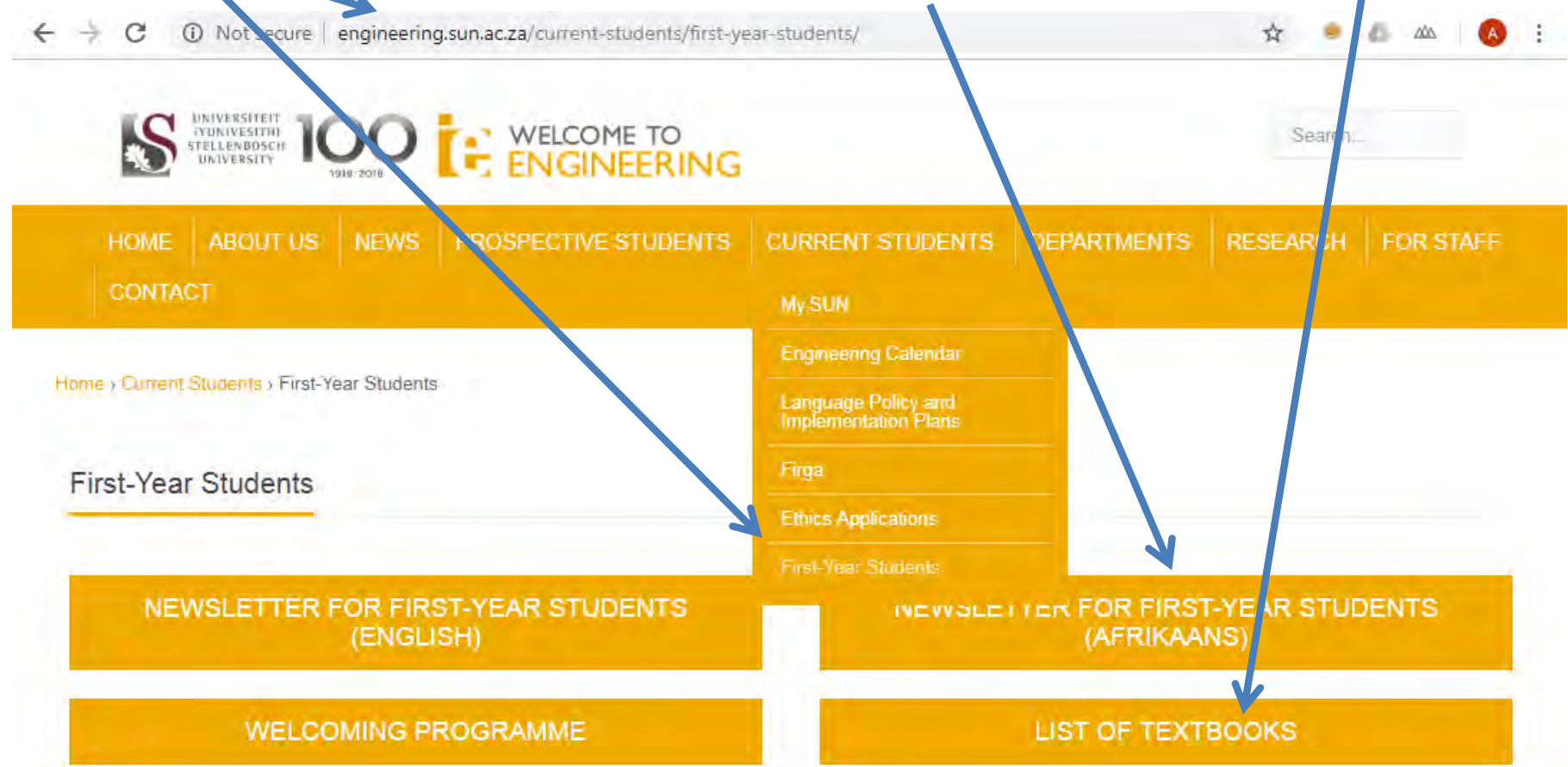


Important Information

eng.sun.ac.za

Newsletter with important info

Text books



The screenshot shows a web browser at the URL engineering.sun.ac.za/current-students/first-year-students/. The page features a navigation bar with links: HOME, ABOUT US, NEWS, PROSPECTIVE STUDENTS, CURRENT STUDENTS, DEPARTMENTS, RESEARCH, FOR STAFF, and CONTACT. A sidebar menu under 'My.SUN' includes: Engineering Calendar, Language Policy and Implementation Plans, Firga, Ethics Applications, and First-Year Students. The main content area has a breadcrumb trail: Home > Current Students > First-Year Students. Below this, there are two columns of orange buttons: the left column contains 'NEWSLETTER FOR FIRST-YEAR STUDENTS (ENGLISH)' and 'WELCOMING PROGRAMME'; the right column contains 'NEWSLETTER FOR FIRST-YEAR STUDENTS (AFRIKAANS)' and 'LIST OF TEXTBOOKS'. Blue arrows point from the text labels above to these specific elements on the page.



Welcoming Programme



- Engineering's welcoming programme starts on Monday 27 Jan at 08:00
 - Students meet the Dean (area in front of General Eng Building)
 - Students that still have to register on-line are taken to registration rooms: includes EDP, foreign matrics
- EDP students follow Engineering's welcoming programme
- 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
 - Will receive ordered text books on Wed 30 January at 14:00 in the foyer of the General Eng Bld. Costs will be loaded on their student accounts
- Those who ordered drawing instruments must collect directly from suppliers



In Conclusion

- If *you* need help or advice, contact the Dean's office:
 - 021 808 4204
 - engdean@sun.ac.za
 - Avril Ford
 - 021 808 3614 aford@sun.ac.za
- May your children all be successful!
- For copy of presentation, please request by email to aford@sun.ac.za

