



Faculty of Engineering and the Built Environment

Undergraduate Programmes

**The Future
Reimagined**



Developing Future
Professional Engineers,
Professional Engineering
Technologists and
Built Environment
Professionals

The Faculty of Engineering and the Built Environment (FEBE) is one of seven faculties in the University of Johannesburg. It offers both Engineering Technology and Engineering Science undergraduate and postgraduate programmes across 12 departments under five Schools. In keeping with the University's quest for Global Excellence and Stature, the Faculty is the first in South Africa to offer global education to the widest range of comprehensive professional engineering, engineering technology and built environment qualifications. FEBE also offers programmes in quality and operational management which registers more than 2000 students annually.

FEBE remains a leading provider of well-qualified engineers, engineering technologists and technicians. Programmes are appropriately accredited by recognised national and international bodies or accords. Over the years, the Faculty has established strategic partnerships within the international higher education landscape and with key industry stakeholders. Operating within the dynamic and competitive higher education landscape, FEBE is innovative in its approach to teaching, learning, collaborative research, community engagement and international partnerships. The Faculty is one of two South African universities part of the CDIO consortium.

The CDIO™ INITIATIVE is an innovative educational framework for producing the next generation of engineers. The Faculty boasts more than 90% of postdoctoral research fellows from the international community and is home to the largest number of international academics and students across the university. UJ is also the first and only African university admitted to Universitas 21, a consortium of 28 research-intensive universities in the world. UJ is ranked at 63 out of 250 international universities in the QS University Rankings: BRICS 2016.

FEBE remains at the cutting edge of technology and education innovation through its many international research and community engagement partnerships. While focused on the promotion of reflective and critical thinking, the Faculty implements novel ways of problem-solving and believes in environmentally sustainable solutions. In support of South Africa as a signatory to the UN Sustainable Development Goals 2030, FEBE's programmes are themed to various areas of sustainable development.



Interview with the Dean

Professor Daniel Mashao



Professor Daniel Mashao studied at a South African University before setting out to complete his PhD, at Brown University in the States. He majored in Artificial Intelligence. Professor Mashao returned to South Africa in 1997 and joined the University of Johannesburg in 2018 as Executive Dean: Faculty of Engineering and the Built Environment.

“One of the University of Johannesburg’s objectives is to lead the world’s research and development on cutting-edge nanomaterial fabrication technology. The University’s Faculty of Engineering and the Built Environment is looking forward to their new nanofabrication facility that will house world-class Atomic Layer Deposition (ALD) reactors. The faculty will transform the South African economy while also ensuring world-class learning opportunities are on offer.”

In conversation with Professor Daniel Mashao, Executive Dean: Faculty of Engineering and the Built Environment (University of Johannesburg)

What is your role as the Executive Dean?

I give strategic direction on where the Faculty is going. We are a university that wants to lead and understand the Fourth Industrial Revolution (4IR). The Faculty of Engineering and the Built Environment is a key player in that dream, in that formulation of a vision; of where our country will be going. So, my role right now is to manage the Faculty’s operations and to ensure that we lead in this space.

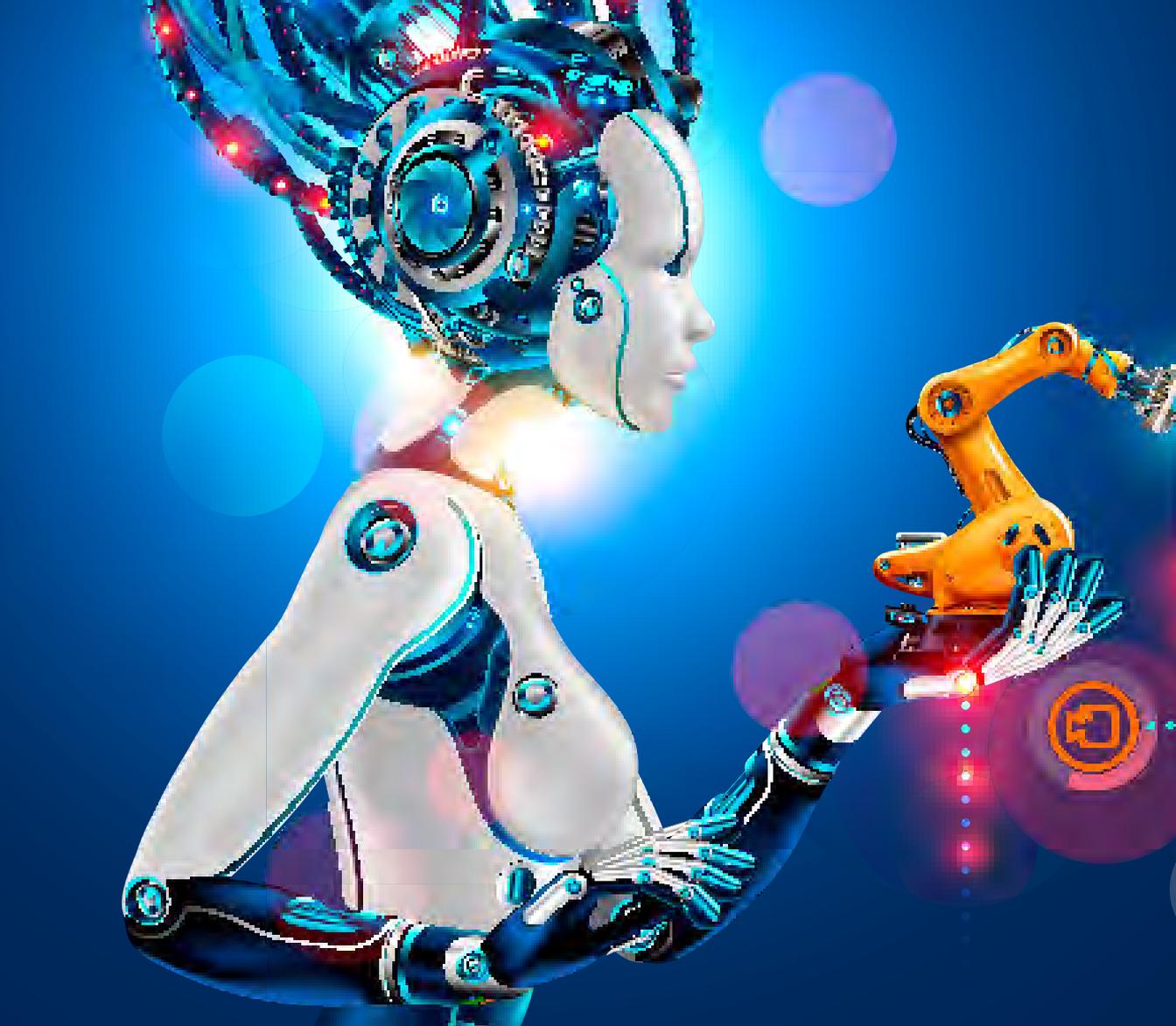
What is the Fourth Industrial Revolution?

I have had the privilege of speaking at various conferences on the issue of what the Fourth Industrial Revolution is. The Fourth Industrial Revolution is a fusion of technologies that produces new innovative values. It is a fusion of new technologies, new business models and new values. Currently, when most people think of technology, they think of digital technology, but there are other technologies, such as biological technologies, physical technologies, emotional technologies or social technologies. In the Fourth Industrial Revolution, these technologies merge, and they produce amazing things, for instance, there are companies that can yield value, without having any resources. Uber is a company that offers the largest taxi business in the world yet doesn’t own a taxi. Google is a technology that offers content, without producing the content itself. These companies have been able to maximise resources that are created in cyber space technology. So, when you are looking at Fourth Industrial Revolution (4IR), you are looking at a fusion of technologies and innovative business models. When these entities come together, they create what you call 4IR.

What is your goal for the Faculty of Engineering and the Built Environment?

Part of our goal as the University of Johannesburg and as the Faculty is to develop what we call the finest engineers and technologists because the University of Johannesburg (UJ) is a comprehensive university that trains engineering scientists and technologists. Our vision is to develop these fine engineers and technologists to lead in the space of the 4IR. In the world, we have had many industrial revolutions,





but this revolution here is important. As a country, we are struggling with unemployment, we are struggling with poverty, and we are struggling with inequalities. We can use 4IR to remedy some of these challenges.

How do you conscientise your students about 4IR in their learning?

Increasingly, we teach with the aid of virtual reality (VR) and augmented reality (AR). We are also introducing e-learning, virtual learning and online learning as part of our course offerings. In addition to that, we are a university seeking to lead in Artificial Intelligence (AI) because we see AI as a solution to many problems. You might be

aware of Google's self-driving cars? At UJ, we are looking at those kinds of technologies that allow machines, robots, to make decisions by themselves. Students at UJ are exposed to these technologies as well as to some of the top professors in the world. These professors are in South Africa to teach our students, as part of our collaborations with universities in China and USA.

What about the research outputs?

Part of the goal for the University of Johannesburg is to be a global university of choice, anchored in Africa, dynamically shaping the future. What we mean by that, is as a university, we want to be globally competitive.



INDUSTRY 4.0

We want to be a global player and be counted internationally. Part of our measures of arriving there is through research outputs. We ensure that we produce research outputs. At the university, about 25 per cent of the conference papers and general papers that the university produces are produced from the Faculty of Engineering and the Built Environment.

Where are you going as a university?

In the short term, we are planning to create some new facilities, for example, at the University of Johannesburg, we are going to have the first, the only, African Atomic Layer Deposition (ALD) Centre. We are going to be able to create materials at an atomic level.

Why would you want to that? When you do that, you find very interesting materials that you can build. You can build the strongest materials that are thinner than a needle. You can build materials that can be used to clean water, to recycle water and so on, and so forth. The university is looking forward to a great time ahead. All our research that we do is because of our students, who together with us, seek to move the boundaries of knowledge. What is known today; there is a lot more to be known, and together with our students, who are hardworking, we will be able to achieve anything.

What is Engineering?

Engineering broadly focuses on the creative application of scientific and technical knowledge to design, analyse, develop structures, machines, manufacturing processes, construction of works/systems for practical purposes or maximising operations.

The Complementary Roles: Engineer, Engineering Technologist and Technician

An Engineer is one who, among others, conceptualizes, designs, and innovates, while the Technologist will, complement an engineering design process, by developing and implementing, and the Technician will install, commission, maintain and operate. Programmes within the Faculty are best suited for learners who are creative thinkers, possess an inventive imagination with an aptitude for mathematics, science and technology, learners who enjoy developing solutions with logic and reason and discovering how things work.

The Faculty of Engineering and the Built Environment is supported by the following Accreditation Bodies:

- Professional Engineering and Engineering Technology Programmes: The Engineering Council of South Africa (ECSA) (www.ecsa.co.za)
- Town and Regional Planning Programmes: South African Council for Planners (SACPLAN) (www.sacplan.org.za)
- Mine Surveying Programme: South African Council for Professional and Technical Surveyors (PLATO) (www.plato.org.za)
- Construction Management Programme: South African Council for Project and Construction Management Professions (SACPCMP) (www.sacpcmp.org.za)
- Quantity Surveying Programme: & South African Council for the Quantity Surveying Profession (SACQSP) (www.sacqsp.org.za)
- Quality and Operations Management Programmes are quality assured through institutional processes.

Accreditation agencies generally align to international accords and in this way most programmes listed by FEBE receive recognition internationally. ECSA is a signatory of the Dublin,

Sydney and Washington Accord, which provides international recognition for the Faculty's BEng and BEngTech. Curricula are specifically designed, taking into consideration the National Skills Development Plan, industry needs, surrounding communities, government, economy and international bodies. Programmes are subject to accreditation visits and quality assurance.

Washington Accord

The Washington Accord, signed in 1989, is an international agreement among bodies responsible for accrediting engineering degree programmes. It recognizes the substantial equivalency of programmes accredited by those bodies and recommends that graduates of programmes accredited by any of the signatory bodies be recognized by the other bodies as having met the academic requirements for entry to the practice of engineering.

Sydney Accord

Similarly, an Agreement was developed for Engineering Technologists or Incorporated Engineers, called the Sydney Accord (SA), which was signed in June 2001.

Dublin Accord

The Dublin Accord is an agreement for the international recognition of Engineering Technician qualifications. In May 2002 the national engineering organisations of the United Kingdom, Republic of Ireland, South Africa and Canada signed an agreement mutually recognising the qualifications which underpin the granting of Engineering Technician titles in the four countries.

South Africa, through ECSA, is an active signatory of all three (3) accords.

Further, and up-to-date, information on accords: www.ieagreements.org

University of Johannesburg's Faculty of Engineering and the Built Environment – The First in South Africa to Roll Out the Widest and Comprehensive Range of BEngTech Degrees.

In line with the Department of Higher Education and Training (DHET), Council of Higher Education's (CHE) new Higher Education Quality Sub-Framework (HEQSF), and Engineering Council of South Africa (ECSA) guidance, the Faculty of Engineering and the Built Environment (FEBE) at University of Johannesburg has rolled out its approved three year BEngTech and Built Environment Bachelors qualifications. These new programmes are developed furthering our approach to Conceive-Design-Implement-Operate (CDIO) – the University of Johannesburg is a member of the CDIO consortia.

Consequently, most of FEBE's National Diploma and BTech programmes will be gradually phased out. The last intake of the three year National Diploma occurred in January 2016. We urge National Diploma graduates / alumnus who have not registered or completed their BTech, to register and complete their degrees as soon as possible.

BEngTech Programmes

The programmes supports expanded access, improved quality and increased diversity of provisions, and reinforces a stronger and more co-operative relationship between Higher Education and training institutions and the workplace. In addition, the programmes are responsive to the needs of individual citizens, employers in both public and private sectors, as well as the broader societal and developmental objectives. The programmes provide for improved articulation towards postgraduate qualifications and exit-level outcomes are aligned with those of the Engineering Council of South

Africa (ECSA), a signatory of accords associated to the International Engineering Alliance (IEA).

New FEBE qualifications

This qualification is primarily industry oriented, as the knowledge taught emphasises on general engineering principles and application. The qualification provides students with a sound knowledge base in a particular field or discipline and the ability to apply their knowledge and skills to particular career or professional contexts, while equipping them to undertake more specialised and intensive learning. Programmes leading to this qualification tend to have a strong professional or career focus and holders of this qualification are normally prepared to enter a specific niche in the labour market.

Tailored for Relevance

Specifically, these programmes are designed to build the necessary knowledge, understanding, abilities and skills required for further learning towards becoming a competent practicing engineering technologist. This qualification completed provides:

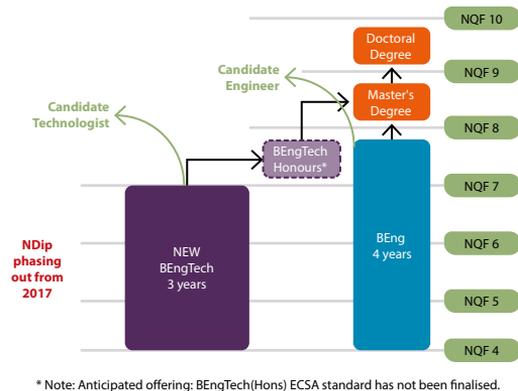
1. Adequate preparation for careers in the engineering profession
2. An educational base required for registration as a Professional Engineering Technologist with ECSA.
3. Entry to NQF level 8 programmes e.g. **BEngTech** (Honours) and Postgraduate Diplomas. Subsequently, this will pave the way for the graduate to enrol for Master's Programmes.
4. The BEngTech is the entry-level qualification for candidacy, i.e. Engineering Technologist (in this regard, the BEngTech replaces the BTech).

Exit-Level Outcomes/Graduate attributes of the new BEngTech:

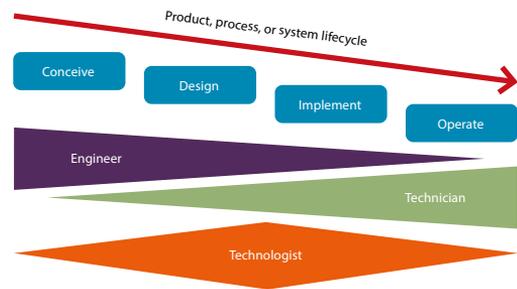
As required by the Engineering Council of South Africa (ECSA), the BEngTech Programmes will be assessed against eleven exit level outcomes (ELO). These are listed below as follows:

1. Problem Solving
2. Application of scientific and engineering knowledge
3. Engineering Design
4. Investigation
5. Engineering methods, skills, tools, including Information technology
6. Professional and Technical Communication
7. Impact of Engineering Activity
8. Individual and Teamwork
9. Independent Learning
10. Engineering Professionalism
11. Engineering Management

UJ's Engineering and Built Environment Qualifications



Engineering Roles in Perspective



The CDIO framework for products/processes/systems is from *Rethinking Engineering Education: The CDIO Approach* by Crawley, et al, 2014: the relationship with the role of technician/technologist/engineer is UJ's approach.

FEBE UJ Engineering Academic Pathways

The Faculty of Engineering and the Built Environment offers essentially three Bachelors Programmes.

- Three (3) year BEngTech (Engineering Technology Qualification)
- Three (3) year Built Environment Bachelor's Degree (Bachelor of Construction; Bachelor Urban and Regional Planning)
- Four (4) year BEng Degree (Engineering Science Qualification)

As per the new Higher Education Qualifications Sub-Framework, the model below is reflective of the articulation of the BEngTech programmes.

Engineering Roles in Perspective

The model above is reflective of Engineering Roles. Whilst an Engineer would focus more on conceiving and design and less on implementation and operation, the Technician's task is inversely proportional. A Technologist, however, will focus on design and implementation, with minimal focus on conceiving and operations.

FEBE is one of two (2) South African/African universities part of the CDIO consortium that is focused on innovative educational framework for producing the next generation of engineers.

How to determine your Admission Point Score (APS)

An Admission Point Score (APS), explained below, has been developed for the National Senior Certificate (NSC) and the Independent Examinations Board (IEB) based on the Achievement Rating of each subject. The total APS is the sum of the achievement ratings of the six school subjects. Life Orientation is not counted in the calculation of the APS.

Rules to be implemented with this development.

In order to determine the Admission Point Score (APS) the following principles need to be taken into consideration:

- Applicants with the following results, WAEC, Diplome or Exam D'Etat, Certificado de Habilitacoes Literarias, Ensino Medio and Baccalaureat should be linked with the Ordinary Level (O) Grades on UJ's Student database.
- Applicants with the following results, HIGCSE, NSSC (HL), AS Level, IB (SL) and KCSE should be linked to the South African NSC (N) Grades on UJ's Student database.
- Applicants who have set for either A Level or IB (HL) should be linked to the (A) Grades on UJ's Student database.

APS	NATIONAL			INTERNATIONAL												
	NSC (IEB/SACAI)	SC HG (M-SCORE)	SC SG (M-SCORE)	HIGCSE/ NSSC (HL)	IGCSE/ NSSC (OL)	AS LEVELS	A LEVELS	IB (HL)	IB (SL)	WAEC	KCSE	Diplome/ Exam D'Etat	CHL/EM	Baccalaureate	AHSD	
10							A	7								
9							B	6								
8							C	5								
7	7 (80-100%)	A		1		A	D	4	7		A					
6	6 (70-79%)	B	A	2		B	E	3	6		B					
5	5 (60-69%)	C	B	3	A	C		2	5	A	C	80-100%	16-20	16-20	A (90-100%)	
4	4 (50-59%)	D	C	4	B	D		1	4	B	D	70-79%	14-15	14-15	B (80-89%)	
3	3 (40-49%)	E	D		C	E			3	C	E	50-69%	10-13	10-13	C (70-79%)	
2	2 (30-39%)	F	E		D/E				2	D/E	F	30-49%	8-9	8-9	D (60-69%)	
1	1 (0-29%)	G	F		F/G				1	F/G	G	0-29%	0-7	0-7	F (0-59%)	

ABBREVIATIONS

NSC	National Senior Certificate (completed Grade 12 in and after 2008)
SC HG	Senior Certificate Higher Grade (completed Grade 12 before 2008)
SC SG	Senior Certificate Standard Grade (completed Grade 12 before 2008)
IEB	Independent Examination Board
HIGCSE	Higher International General Certificate of Secondary Education
IGCSE	International General Certificate of Secondary Education
NSSC(HL)	Namibia Senior Secondary Certificate (Higher Level)
NSSC(OL)	Namibia Senior Secondary Certificate (Ordinary Level – Cambridge)
AS	Advanced Subsidiary Level (Cambridge)
A Level	Advanced Level (Cambridge)
IB(HL)	International Baccalaureate Schools (Higher Levels)
IB(SL)	International Baccalaureate Schools (Standard Levels)
WAEC	West African Examination Council
KCSE	Kenya Certificate of Secondary Education
Diplome/Exam D'Etat	Diplome d'Etat or d'Etudes Secondaire du Cycle
CHL/EM	Certificado de Habilitacoes Literarias (Mozambique) / Ensino Medio (Angola)
Baccalaureate	Gabonese School Leaving
AHSD	American High School Diploma

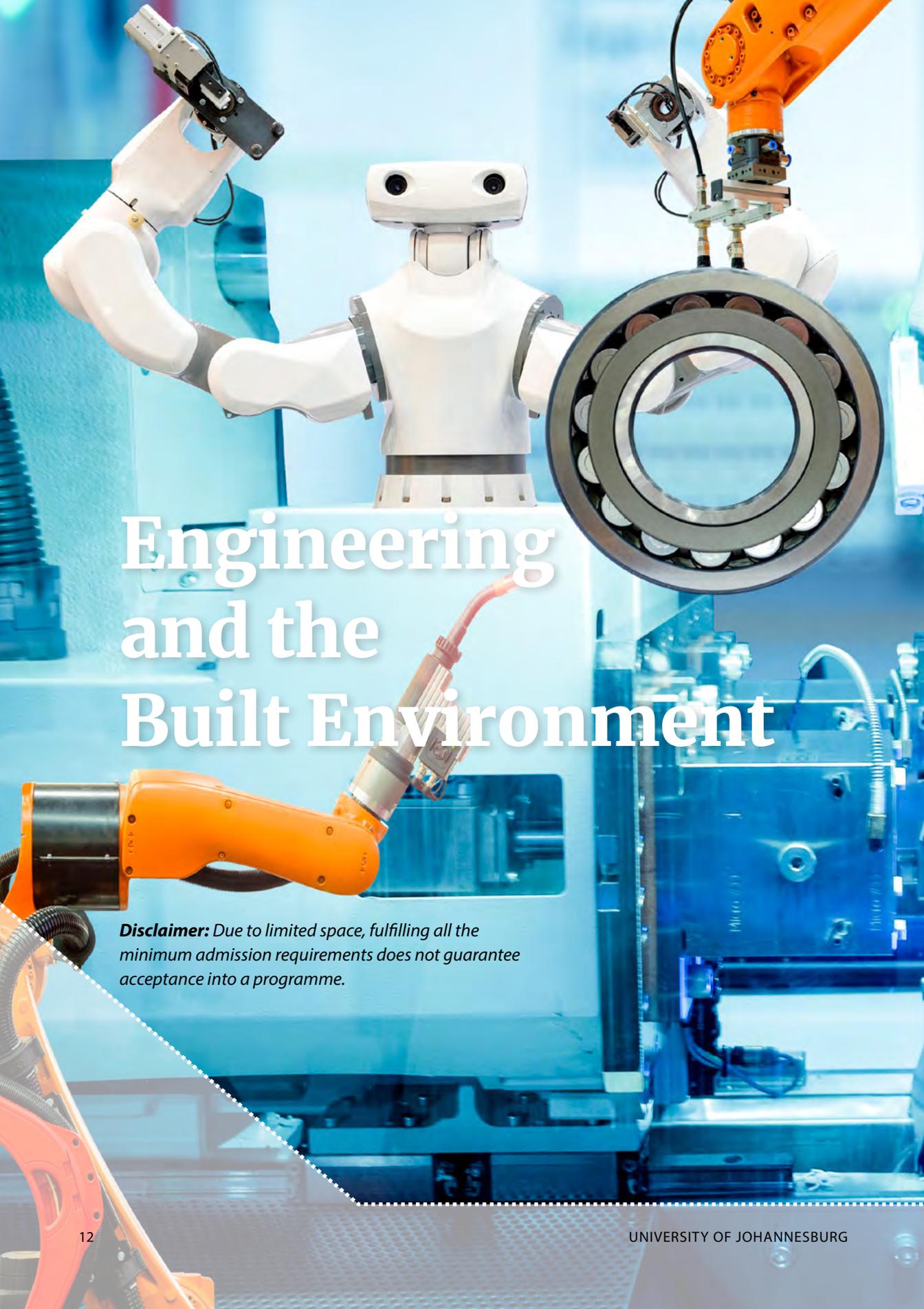
* Life Orientation is not counted in the calculation of the APS.

Disclaimer: In order to be considered for selection for a programme, an applicant is required to comply with the programme's minimum admission criteria in respect of the total APS as well as their Group A and B subjects. Meeting the Faculty's minimum requirements for a particular programme does not necessarily guarantee admission to that programme as specific selection criteria may be applied.

Points are awarded for the six symbols on your Grade 11 or Grade 12 report. See example below.

School Subject	Marks	APS
First language (language of teaching and learning)	65%	5
Additional recognised language	71%	6
Mathematics or Mathematical Literacy	61%	5
Accounting	68%	5
History	81%	7
Geography	86%	7
Total		35

* Life Orientation is not counted in the calculation of the total APS.



Engineering and the Built Environment

Disclaimer: Due to limited space, fulfilling all the minimum admission requirements does not guarantee acceptance into a programme.



The Faculty of Engineering and the Built Environment (FEBE) is one of eight faculties* at the University of Johannesburg, home to five schools, 12 departments and two technology stations. It offers both Engineering Technology and Engineering Science undergraduate and postgraduate programmes. In keeping with the University's comprehensive status, the Faculty is the first in South Africa to offer global education to a full range of professional engineering qualifications.

FEBE remains a leading provider of well-qualified and accredited engineers, technologists and technicians. Over the years, the Faculty has established strategic partnerships within the international higher education landscape and with key industry stakeholders. Operating within the dynamic and competitive higher education landscape, FEBE is innovative in its approach to teaching, learning, collaborative research, community engagement, international partnerships and remains at the cutting edge of technology. It is focused on the promotion of reflective and critical thinking, novel ways of problem-solving and believes in environmentally sustainable solutions.

Engineering broadly focuses on the creative application of scientific and technical knowledge to design, analyse, develop structures, machines, manufacturing processes, construction of works/systems for practical purposes or maximizing operations. An Engineer is one that analyses and innovates, while the Technologist will implement and develop and the Technician will install, commission, maintain and operate. Courses within the Faculty are best suited for learners who are creative thinkers, possess an inventive imagination with an aptitude for mathematics, science and technology, learners who enjoy discovering how things work and solving problems with logic and reason.

The Faculty of Engineering and the Built Environment is supported by the following Accreditation Bodies:

- Engineering and Engineering Technology Programmes the Engineering Council of South Africa (ECSA)
- Town and Regional Planning: South African Council for Planners (SACPLAN)
- Mine Surveying: South African Council for Professional and Technical Surveyors (PLATO)
- Construction Management: South African Council for Project and Construction Management Professions (SACPCMP) & South African Council for the Quantity Surveying Profession (SACQSP)
- Quality and Operations Management Programmes are not subject to accreditation by professional bodies.

Accreditation agencies generally align to international accords and in this way programmes listed by FEBE receive recognition internationally. ECSA is a signatory of the Dublin, Sydney and Washington Accord which provides international recognition for the Faculty's BEng and BEng Tech. Curricula are specifically designed, taking into consideration the National Skills Development Plan, industry needs, surrounding communities, government, economy and international bodies. Programmes are subject to accreditation visits and quality assurance.

PROGRAMME	Qualification Code	Minimum APS	English	Mathematics / Technical Mathematics	Physical Sciences	OR	Technical Science	CAREER	CAMPUS
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DEGREE PROGRAMMES

Bachelor of Engineering (BEng) Degree (4 years)

CIVIL ENGINEERING	B6CISQ	32	5 (60%+)	5 (60%+)	5 (60%+)	-	Not accepted	Plan, design and construction of infrastructure	APK
ELECTRICAL AND ELECTRONIC ENGINEERING	B6ELSQ	32	5 (60%+)	5 (60%+)	5 (60%+)	-	Not accepted	Electronic Design, Software System Design	APK
MECHANICAL ENGINEERING	B6MESQ	32	5 (60%+)	5 (60%+)	5 (60%+)	-	Not accepted	Designing, manufacturing, and maintenance of machines	APK

Bachelor of Engineering Technology (BEngTech) Degree Programmes (3 years)

CHEMICAL ENGINEERING	B6CE1Q	30	4 (50%+)	5 (60%+)	5 (60%+)	-	Not accepted	Design and manage industrial chemical processes for the manufacturing sector	DFC
CIVIL ENGINEERING	B6CV0Q	28	4 (50%+)	5 (60%+)	5 (60%+)	OR	5 (60%+)	Plan, design and construction of infrastructure	DFC
ELECTRICAL ENGINEERING	B6EL1Q	30	4 (50%+)	5 (60%+)	5 (60%+)	-	Not accepted	Electronic Design, Software System Design	DFC
EXTRACTION METALLURGY	B6EXTQ	30	4 (50%+)	5 (60%+)	5 (60%+)	-	Not accepted	Manage metallurgical plants that are designed to recover and refine metals or other valuable constituents in mine ores	DFC
INDUSTRIAL ENGINEERING	B6INDQ	30	4 (50%+)	5 (60%+)	5 (60%+)	OR	5 (60%+)	Design and implement systems in organisations to maximise production	DFC
MECHANICAL ENGINEERING	B6MECQ	30	4 (50%+)	5 (60%+)	5 (60%+)	OR	5 (60%+)	Design, manufacture and maintain industrial machines and engines	DFC
MINING ENGINEERING	B6MINQ	23	4 (50%+)	5 (60%+)	5 (60%+)	OR	5 (60%+)	Select and manage the correct method of mining in specific geological environments	DFC
PHYSICAL METALLURGY	B6PHYQ	30	4 (50%+)	5 (60%+)	5 (60%+)	-	Not accepted	Assesses the suitability of metals for their use in metallic goods	DFC



PROGRAMME	Qualification Code	Minimum APS	English	Mathematics / Technical Mathematics	Physical Sciences	OR	Technical Science	Geography	CAREER	CAMPUS
Bachelor of Mine Surveying Degree (3 years)										
MINE SURVEYING	B6SU0Q	23	4 (50%+)	5 (60%+)	5 (60%+)	OR	5 (60%+)	Not applicable	Advise surveying mining engineers about geological areas that can be profitably mined	DFC
Bachelor of Science in Construction (BSc) Degree (3 years)										
CONSTRUCTION	B6CN0Q	30	4 (50%+)	5 (60%+)	5 (60%+)	OR	5 (60%+)	Not applicable	Students are employed in the construction industry as Quantity Surveyors and Construction Managers	DFC
Bachelor of Urban and Regional Planning Degree (3 years)										
URBAN AND REGIONAL PLANNING	B6UP0Q	27	4 (50%+)	5 (60%+)	Not applicable	1	Not applicable	5 (60%+)	The allocation and spatial organisation of land uses to ensure coordinated and harmonious development and to create successful and sustainable human settlements	DFC

PROGRAMME	Qualification Code	Minimum APS	English	Mathematics / Technical Mathematics	Mathematical Literacy	CAREER	CAMPUS
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DIPLOMA PROGRAMMES (3 years)							
MANAGEMENT SERVICES	D6MASQ	19 with Mathematics OR 21 with Mathematical Literacy	4 (50%+)	3 (40%+)	5 (60%+)	Advise on improving the efficiency and the productivity of an organisation	DFC
OPERATIONS MANAGEMENT	D6OPMQ	20 with Mathematics OR 22 with Mathematical Literacy	4 (50%+)	3 (40%+)	5 (60%+)	This career equips the graduate with the ability to plan, organise and control operational activities in an organisation	DFC

ADMISSION REQUIREMENTS FOR APPLICANTS WITH A NATIONAL CERTIFICATE (VOCATIONAL) (NCV)

For admission to a BEng degree (4 years) the applicant must have:

- A NCV (level 4) issued by the Council for General and Further Education and Training.
- Achieved a minimum of 70% for 5 of the 7 subjects – fundamental and vocational categories.
- Passed English as Language of Teaching and Learning / First Additional Language as fundamental component with a minimum of 70%.
- Passed Mathematics and Physical Sciences as Fundamental Components with a minimum score of 70%.

For admission to a National Diploma the applicant must have:

- A NCV (level 4) issued by the Council for General and Further Education and Training.
- Achieved a minimum of 60% for 6 of the 7 subjects – fundamental and vocational categories.
- Passed English as Language of Teaching and Learning / First Additional Language as fundamental component with a minimum of 70%.
- Passed Mathematics and Physical Sciences as Fundamental Components with a minimum score of 60%.

ADMISSION REQUIREMENTS FOR NATIONAL SENIOR CERTIFICATE FOR ADULTS (NASCA) APPLICANTS:

National Senior Certificate for Adults (NASCA): The following criteria will apply for admission to all undergraduate Engineering programmes (BEng and BEng Tech).

- The following minimum subject requirements will apply for admission:
 - English 60% APS 5
 - Maths 60% APS 5
 - Physical Science 60% APS 5
- Applicants will be required to complete a PsyCaD assessment obtaining an unconditional recommendation;
- Recommendation by the relevant Head of Department;
- Senate Discretionary Conditional Admission for applicants who have successfully completed the NASCA, provided that the applicant meets all the requirements;
- Admission will also be based on the availability of space according to the Enrolment Management Plan of UJ as approved by the Department of Higher Education and Training.

ADMISSION REQUIREMENTS FOR THE AMENDED SENIOR CERTIFICATE (SC(a)) APPLICANTS:

Amended Senior Certificate (SC(a)): The following criteria will apply for admission to all undergraduate Engineering programmes (BEng and BEngTech).

- The following minimum subject requirements will apply for admission:
 - English 60% APS 5
 - Maths 60% APS 5
 - Physical Science 60% APS 5
- Applicants will be required to complete a PsyCaD assessment obtaining an unconditional recommendation;
- Recommendation by the relevant Head of Department;
- Senate Discretionary Conditional Admission for applicants who have successfully completed the SC(a), provided that the applicant meets all the requirements;
- Admission will also be based on the availability of space according to the Enrolment Management Plan of UJ as approved by the Department of Higher Education and Training.

PROGRAMME	Qualification Code	Minimum APS	English	Mathematics / Technical Mathematics	Physical Sciences / Technical Science	Mathematical Literacy	CAREER	CAMPUS
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EXTENDED TECHNOLOGY DEGREE PROGRAMMES

Extended Bachelor of Science in Construction (BSc) Degree Programme

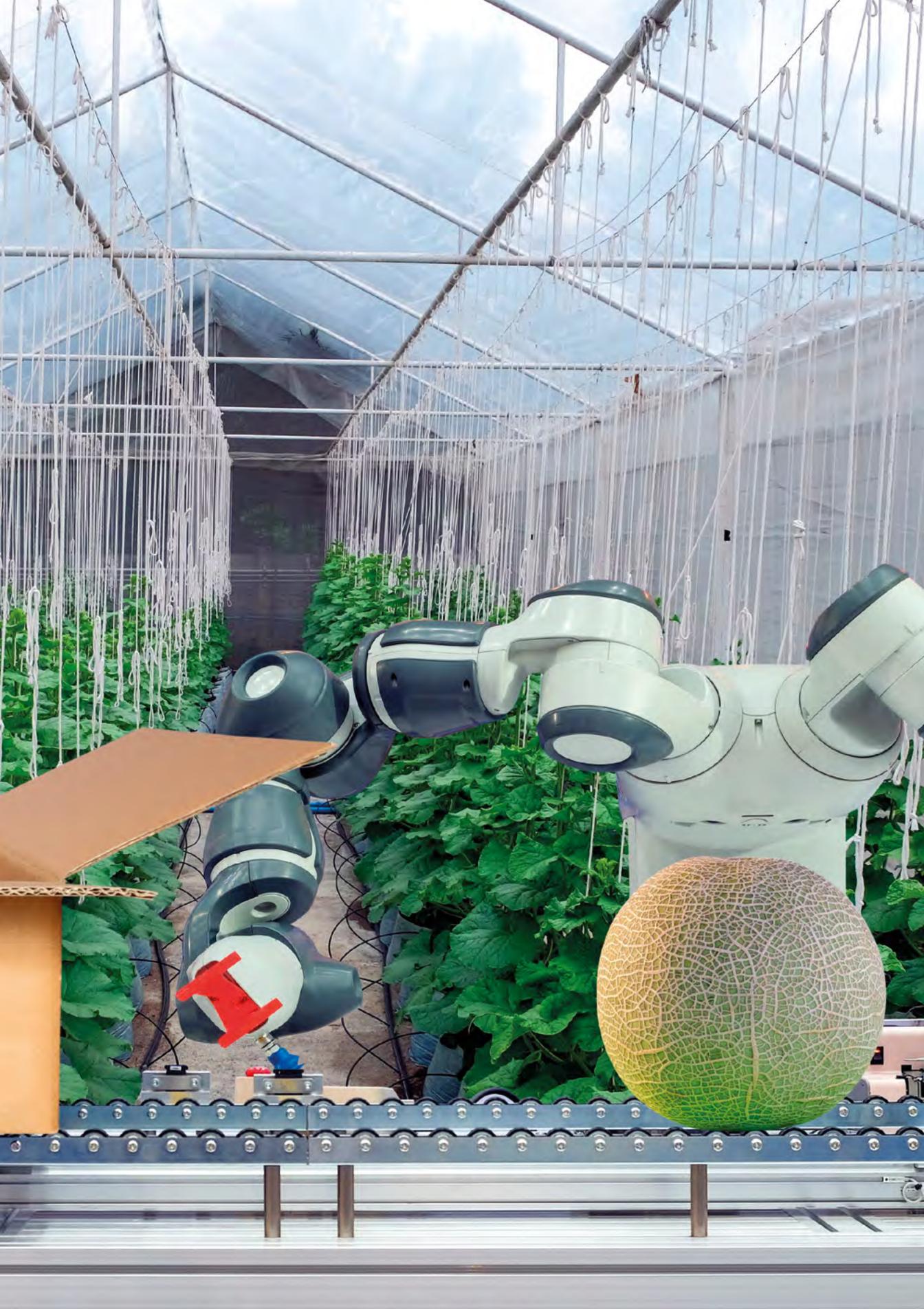
CONSTRUCTION	B6SC0Q	26	4 (50%+)	5 (60%+)	5 (60%+)	Not applicable	Students are employed in the construction industry as Quantity Surveyors and Construction Managers	DFC
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Extended Bachelor of Engineering Technology (BEngTech) Degree Programmes

CIVIL ENGINEERING	B6CX0Q	26	4 (50%+)	4 (50%+)	4 (50%+)	Not applicable	Professional Civil Engineering, Plan, Design and Construction of Infrastructure	DFC
ELECTRICAL ENGINEERING	B6L1XQ	26	4 (50%+)	5 (60%+)	5 (60%+)	Not applicable	Electronic Design, Software System Design	DFC
EXTRACTION METALLURGY	B6EX0Q	22	4 (50%+)	4 (50%+)	4 (50%+)	Not applicable	Manage metallurgical plants that are designed to recover and refine metals or other valuable constituents in mine ores	DFC
INDUSTRIAL ENGINEERING	B6INXQ	24	4 (50%+)	5 (60%+)	5 (60%+)	Not applicable	Industrial Engineers design and implement systems in organisations to maximise production	DFC
MECHANICAL ENGINEERING	B6MEXQ	24	4 (50%+)	5 (60%+)	5 (60%+)	Not applicable	Mechanical Engineers design, manufacture and maintain industrial machines and engines	DFC
PHYSICAL METALLURGY	B6PX0Q	22	4 (50%+)	4 (50%+)	4 (50%+)	Not applicable	Engineering Metallurgists assess the suitability of metals for their use in metallic goods	DFC

EXTENDED DIPLOMA PROGRAMMES

MANAGEMENT SERVICES	D6MAEQ	19 with Mathematics OR 21 with Mathematical Literacy	4 (50%+)	3 (40%+)	Not accepted	5 (60%+)	Advise on improving the efficiency and the productivity of an organisation	DFC
OPERATIONS MANAGEMENT	D6OPEQ	20 with Mathematics OR 22 with Mathematical Literacy	4 (50%+)	3 (40%+)	Not accepted	5 (60%+)	This career equips the graduate with the ability to plan, organise and control operational activities in an organisation	DFC



Career Opportunities

Engineering Technology and Built Environment

Civil Engineering Technology

Students are trained in a range of engineering technology services. Their education is in the planning, design and construction of physical infrastructures. These include buildings, bridges, highways, streets, parks, dams, drainage and irrigation systems, water supply and sewer collection systems, and commercial and industrial facilities. Students also learn to manage and inspect the construction process.

Construction Management and Quantity Surveying

Construction management and quantity surveying professionals possess a sound knowledge of construction, economics, business law and computers and have good communication and literary skills. They have a thorough technical understanding of design forms and construction processes, including procurement and management skills.

Urban and Regional Planning

The Department of Town and Regional Planning maintains strong relations with higher education institutions across South Africa and planning profession, through the South African Planning Institute and the South African Council for Planners. Teaching, learning and research is aligned to national and international trends. The field of Town and Regional Planning covers land-use planning, urban design, transport and infrastructure planning, use and extension of information technology, heritage and conservation, resource management, environmental monitoring, commercial and industrial development, policy making and implementation, as well as planning law and practice.

Electrical Engineering Technology

The Department of Electrical Engineering Technology specialises in computer systems engineering and electrical engineering technology programmes and the development of electronic and computer engineering technicians and technologists. Computer systems engineering technicians provide professional, technical and developmental support to companies in the computer industry. They work in environments such as engineering, communications, information processing and control. Typical activities include hardware design,

software engineering (including programming) and network maintenance and design (including the development of embedded systems).

Mechanical Engineering Technology

Mechanical engineers design, manufacture and maintain industrial machines and engines. They are involved in a range of products ranging from spacecraft and air conditioning systems to automobiles, washers and dryers. Mechanical engineering technology involves applying scientific and engineering theories to technical areas such as product design and development, production, manufacturing, power and control of machinery, materials, quality control and cost analysis. The programme focuses on mechanical engineering skills in relation to key industry sectors such as mining, manufacturing and design.

Industrial Engineering Technology

Industrial engineers design and implement systems in organisations to maximise production. They work with other engineers to put the theory of mechanical, chemical and electrical engineering into practice. Industrial engineers are involved in planning for the processes of storage, movement of materials, and layout of factories. They organise and manage the relationship between other planners, plan operators and the plant itself to ensure a coordinated flow of work and optimal productivity. The Department of Industrial Engineering Technology training at UJ produces skilled graduates, who are able to think creatively in a range of work place settings. The department works closely with industry to develop new interventions to deal with the shortage of process engineering skills, especially in the service sector.

Physical Metallurgy

The Department of Metallurgy at UJ enjoys strong links with the metal industry in South Africa, giving students exposure to a wide range of metal-related operations during their studies. It equips graduates with sound knowledge of the production, design and manufacturing of metals. The key role of an engineering metallurgist is to assess the suitability of metals for use in metallic goods. He or she is skilled in the production of metals and metallic materials. Metallurgical engineers also develop way of processing metals and converting them into useful goods.

FEBE is home to nine Engineering Technology Departments at the Doornfontein Campus. Successful completion of the 3-year BEng Tech Degree leads to professional registration as a Professional Engineering Technologist.

Extraction Metallurgy

Extraction Metallurgists specialise in the extraction of metals and minerals from run of mine ores. They control, design process improvements to optimise the recovery of metals and minerals from ore. Often, these processes require further refining to purify the metals extracted. Graduates are equipped to work in a range of industry settings. Extraction Metallurgists focus on recovery efficiency and cost control. Sampling at various stages in the process is an important aspect of plant control to ensure target recoveries are achieved. Analysis of these samples requires metallurgists to be familiar with chemical analyses as well as other sophisticated analytical techniques.

Mine Surveying

Surveying is a central function on a mine. Mine surveyors provide information to all mining disciplines. Mine surveyors work in the mining science and technology fields and their key focus is on measurements, calculations and mapping for all stages of the mining process. They are involved in the accurate measurement of areas and volumes mined and the precise representation of surface and underground mining on mine plans. They advise mining engineers about geological areas that can be profitably mined. The Department of Mining Engineering and Mine Surveying at UJ has strong links with the mining industry, including the Department of Minerals and Energy Affairs and the Institute of Mine Surveyors South Africa. It is the only department in South Africa offering a full-time contact programme in Mine Surveying. This equips graduates to competently carry out the duties of a mine surveyor.

Mining Engineering

Mining Engineering is concerned with organising, operating and monitoring mining processes as well as with environmental protection and creating safe underground working conditions. The mining industry has advanced with the introduction of new technology, enabling mining companies to improve productivity levels and maximise safety while managing environmental impact. Mining Engineering as a career combines several areas of expertise. In addition to specialist mining knowledge and engineering expertise, a mining engineer needs people and business skills. Mining engineering graduates can

work towards positions at management level, and often end up in mine management roles. The Mining Engineering programme is uniquely career-focused and closely aligned with the mining industry and mining organisations in South Africa. In this way, students can link with potential employers prior to graduation. The main responsibility of a mine manager is to extract minerals from an ore-body safely and economically while meeting the financial targets of a mine. Prior to application, the prospective student must take into consideration the feasibility of entering the programme. The applicant should ideally be exposed to an underground mine visit before making the decision. It is important that the applicant is physically strong with body mass in excess of 40kg, in good health with acceptable senses such as hearing and vision. To gain employment in industry, the individual will also be required to pass a medical assessment. They should ideally have the backing of a mining company.

Chemical Engineering Technology

Chemical Engineering is involved with the physical and chemical transformation of raw materials into finished products. Chemical Engineering Technologists focus on the chemical and physical processes used in the manufacturing industry. They are employed across a wide range of manufacturing environments such as pharmaceuticals, petrochemicals, iron and steel, food and beverages, water and waste water treatment. In these industries, they investigate the nature of chemical reactions, process and equipment optimisation, commissioning and design, trouble shooting and problem solving. Typical job functions involve analysing raw materials and final products, quality assurance, research and development, technical sales and service, and production or process control. Chemical engineering graduates can also focus their work on environmental, health and safety management, as many of the industrial processes release pollutants into environment that can be harmful to humans and the environment.

Quality and Operations Management

Quality and Operations Management includes the range of activities from managing quality and process strategy to human resources and supply chain management. Career opportunities include factory management, as a production supervisor, in product development, flow and cost control.



FEBE is home to three Engineering Science Departments at the Auckland Park Kingsway Campus. Successful completion of the 4-year BEng Degree leads to professional registration as a Professional Engineer.

Career Opportunities

Engineering Science

Civil Engineering Science

The Department of Civil Engineering Science at UJ has recently grown to become one of the largest in South Africa. Key academic focus areas of this Department include water, structures, transport, geotechnical engineering, project management, civil engineering materials, urban development and design.

Electrical and Electronic Engineering Science

Through excellent teaching and innovative learning, the Department of Electrical and Electronic Engineering Science at UJ is focussed on being an internationally recognised Electrical and Electronic Engineering department. It aims to produce graduates who can solve complex engineering problems. Electrical Engineers are concerned with using electricity to transmit energy while electronic engineers are concerned with using electricity to transmit information. Electrical engineers design, manufacture, install and manage systems and installations that generate or use electrical energy. They are involved in fields or control systems.

Mechanical Engineering Science

Mechanical engineering is concerned with a large variety of mechanical equipment varying from small items such as staplers and openers to large constructions such as aircraft, railways, spacecraft, ships, motor cars, and major transport equipment. Mechanical engineers play a significant role in product design, manufacture, maintenance, research, control, development, and management, as well as marketing of mechanical engineering services. In South Africa, mechanical engineers play important roles in heavy industries, transport services, manufacturing, mining, consulting, research, and the commodities industry.

Admission Requirements for applicants with a National Certificate (Vocational) (NCV)

For admission to all FEBE's Undergraduate Degrees the applicant must have:

- A NCV (level 4) issued by the Council for General and Further Education and Training with Degree Endorsement.
- Achieved a minimum of 70% for 5 of the 7 subjects – fundamental and vocational categories.
- Passed English as Language of Teaching and Learning / First Additional Language as fundamental component with a minimum of 70%.
- Passed Mathematics and Physical Sciences as Fundamental Components with a minimum score of 70%.

For admission to the Operations Management and Management Services Diplomas, applicants must have:

- A NCV (level 4) issued by the Council for General and Further Education and Training.
- Achieved a minimum of 60% for 6 of the 7 subjects – fundamental and vocational categories.
- Passed English as Language of Teaching and Learning / First Additional Language as fundamental component with a minimum of 70%.
- Passed Mathematics and Physical Sciences as Fundamental Components with a minimum score of 60%.

Disclaimer: Due to limited space, fulfilling all the minimum entry requirements does not guarantee acceptance into a programme.



ADMISSION REQUIREMENTS FOR APPLICANTS WITH A NATIONAL CERTIFICATE (VOCATIONAL) (NCV)

For admission to a BEng degree (4 years) the applicant must have:

- A NCV (level 4) issued by the Council for General and Further Education and Training.
- Achieved a minimum of 70% for 5 of the 7 subjects – fundamental and vocational categories.
- Passed English as Language of Teaching and Learning / First Additional Language as fundamental component with a minimum of 70%.
- Passed Mathematics and Physical Sciences as Fundamental Components with a minimum score of 70%.

For admission to a National Diploma the applicant must have:

- A NCV (level 4) issued by the Council for General and Further Education and Training.
- Achieved a minimum of 60% for 6 of the 7 subjects – fundamental and vocational categories.
- Passed English as Language of Teaching and Learning / First Additional Language as fundamental component with a minimum of 70%.
- Passed Mathematics and Physical Sciences as Fundamental Components with a minimum score of 60%.

ADMISSION REQUIREMENTS FOR NATIONAL SENIOR CERTIFICATE FOR ADULTS (NASCA) APPLICANTS:

National Senior Certificate for Adults (NASCA): The following criteria will apply for admission to all undergraduate Engineering programmes (BEng and BEng Tech).

- The following minimum subject requirements will apply for admission:
 - English 60% APS 5
 - Maths 60% APS 5
 - Physical Science 60% APS 5
- Applicants will be required to complete a PsyCaD assessment obtaining an unconditional recommendation;
- Recommendation by the relevant Head of Department;
- Senate Discretionary Conditional Admission for applicants who have successfully completed the NASCA, provided that the applicant meets all the requirements;
- Admission will also be based on the availability of space according to the Enrolment Management Plan of UJ as approved by the Department of Higher Education and Training.

ADMISSION REQUIREMENTS FOR THE AMENDED SENIOR CERTIFICATE (SC(a)) APPLICANTS:

Amended Senior Certificate (SC(a)): The following criteria will apply for admission to all undergraduate Engineering programmes (BEng and BEngTech).

- The following minimum subject requirements will apply for admission:
 - English 60% APS 5
 - Maths 60% APS 5
 - Physical Science 60% APS 5
- Applicants will be required to complete a PsyCaD assessment obtaining an unconditional recommendation;
- Recommendation by the relevant Head of Department;
- Senate Discretionary Conditional Admission for applicants who have successfully completed the SC(a), provided that the applicant meets all the requirements;
- Admission will also be based on the availability of space according to the Enrolment Management Plan of UJ as approved by the Department of Higher Education and Training.

Applications to FEBE requires the appropriate combination of recognised National Senior Certificate (NSC) or Independent Examinations Board (IEB) subjects as well as certain levels of achievement in these subjects as set out in this brochure.

Learners who have not written the National Senior Certificate or Independent Examinations Board final examinations, but fall in the categories listed below will be referred to the Faculty's Admissions Office:

- ACE School of Tomorrow,
- N3/N4/N5/N6 results, and
- Any other final school-leaving certificates not aforementioned.

In addition to the above, a National Benchmark Test (NBT) and PsyCaD evaluation will be required.

NOTE: Payments to UJ must only be made into a UJ bank account. If approached to be assisted for a fee to gain access to UJ, please decline the offer and immediately inform the University thereof.

Note: Compliance with the minimum requirements **does not guarantee** a place as the University has a specific number of places as approved by the Department of Higher Education and Training for new undergraduate first years.

Conditional and provisional admission is based on the final Grade 11 results. Final admission is

* *Please note:* Fees and deposits are subject to change.



CLOSING DATES FOR APPLICATIONS

UNDERGRADUATE STUDIES	
All Undergraduate Programmes	30 September 2021 @ 12:00 (subject to change)
STUDENT ACCOMMODATION	
All Undergraduate Programmes	30 September 2021 @ 12:00 (subject to change)
For more information visit www.uj.ac.za	

based on the final Grade 12 results.

- The earlier you apply, the more likely it is that you will be accepted into a UJ Residence.
- Only once you have applied and you have your student number will you be able to investigate bursaries that may cover your studies.

APPLICATION PROCESS

PAPER APPLICATIONS

- Step 1: Select your qualification study choices 1 and 2. (Ensure you meet the admission requirements as set out in this prospectus.)
- Step 2: Complete the academic application form with a payment of R200 for a paper application (no payment required for online application).
- Step 3: Once you have submitted your application, please allow for three weeks before checking on the status of your application. If your application meets the necessary requirements and there is space in your selected programme, you will be informed on whether your application has been successful or not.

Please note that all official communication will be sent via email. You may also visit the UJ website to check your application status using your ID or student number.

ONLINE APPLICATION PROCESS

Please note the following:

- No application fee will be charged for online applications.
- If you have previously applied and have a UJ student number, please call the UJ Call Centre (011 559 4555) to ensure that your cell number and email address are captured on our student database. This will ensure you receive a PIN number to complete the online application process.

An applicant must go to **www.uj.ac.za/apply** and select online web application.

- Please keep an eye out on the UJ webpage for any possible change to the instructions to apply online.

INTERNATIONAL STUDENTS

Admission for all applicants is subject to the faculty qualifications admission point score requirements. Registration of admitted international applicants is subject to compliance requirements as stipulated by the Immigration Act No.13 of 2002, the regulations made thereunder and the University's policy.

Application

All international applicants must submit the following supporting documents:

- Final School Results
- Valid Passport or Identity Documents or Birth Certificate
- Sworn English Translation of documents (Documents issued in any Language other than English)
- Provide proof of the English Proficiency where English was not used as a medium of learning and teaching (refer to English Proficiency Tests on page 22)

International applicants follow the same application process as national applicants – www.uj.ac.za/Apply

The University of Johannesburg offers applicants a first and second choice in terms of what they wish to study. All applicants should complete both a first and a second choice when applying.

Undergraduate degree-seeking applicants

In order to study for a South African degree, applicants are required to have achieved the equivalent of a South African National Senior Certificate with a degree endorsement. All international applicants with high school results or qualifications achieved outside of the Republic of South Africa require a certificate of exemption from the Matriculation Board of South Africa (USAf) for admission into undergraduate degree studies. All degree-seeking applicants are required to submit the following supporting documents which must

be certified for submission to the Matriculation Board (USAf):

- Completed Form M30 (this form can be downloaded on the Matriculation Board website www.mb.usaf.ac.za) with proof of exemption fee payment
- Exemption fee as determined by the Matriculation Board of South Africa (USAf) (see website www.mb.usaf.ac.za)

Contact Details – Matriculations Board

1st Floor, Block E, Hadefields Office Park
1267 Pretorius Street, Hatfield, Pretoria
Tel no: +27 (0)10 591 4401/2
Fax no: +27 (0)86 680 5727
Email: fax@usaf.ac.za
Website: www.mb.usaf.ac.za

Diploma and certificate-seeking applicants

Should you wish to apply for a certificate or diploma qualifications you do not require an endorsement or conditional exemption from the Matriculation Board (USAf).

Compulsory Study Visa

All accepted International applicants (passport holders) are required by law to, upon receipt of their admission or acceptance letter, immediately apply for a study visa in line with the Immigration Act No. 13 of 2002, Immigration Regulations.

For more information please contact the University of Johannesburg, Division for Internationalisation or visit the Republic of South Africa Embassy, Consulate or Mission in your home country or visit the Republic of South Africa Department of Home Affairs website: www.dha.gov.za

University fees

All accepted International applicants who are privately or self-funded are required to pay their fees prior to or during registration as follows;



TUITION AND UJ RESIDENCE FEES (ON CAMPUS RESIDENCE)

- An upfront payment of 30% of tuition fees to be paid at registration.
- 35% of the tuition fees to be paid by 30 April.
- 35% of the tuition fees to be paid by 31 July.

The University will offer a 5% discount should all fees be paid at registration.

Fees generally increase between 10 and 15 percent per year. Please contact the University in December to obtain the approved fees for the 2022 academic year.

International Levy 2022

Please note that the international levy is non-refundable and expires on 31 December of the year of registration. The international levy for the year 2022 will be published prior to registration.

How to pay

Payments to the University can be made in the form of a foreign bank payment or electronic transfer into the following account:

University of Johannesburg
FNB UJ Main Account
Account type: Cheque
Account number: 626 158 73280
Branch name: FNB Client Services
Branch code: 210-554
Swift code: FIRNZ AJJ

International applicants making payments at First National Bank (FNB) in South Africa should make use of the following banking details:

FNB UJ Main Account

Account type: Cheque
Account number: 626 158 73280
Branch name: FNB Client Services
Branch code: 210-554

All applicants must use their **passport number** as a reference.

Applicants must provide the University with proof of payment from the bank where the transfer was made.

The UJ English Language Programme (UJELP)

*UJELP (pronounced "huge help") is a Short Learning Programme for international students at the University of Johannesburg. It offers a platform for students to learn and practice the English language, as well as the academic, social, and behavioural skills appropriate for academia.

Students registering for UJELP must complete a Placement Test focusing on their competence in Grammar and Vocabulary, Listening, Writing and Oral presentation. This Placement Test may be completed outside of South Africa – Phase 1 (online) or at UJ Phase 2 (on-site) – to enable students to obtain their English proficiency results before registration or for visa application purposes (outside South Africa).

By using the proficiency levels of the Common European Framework of Reference (CEFR), students are placed in the following groups: Elementary (A1 and A2), Intermediate (B1 and B2), and Advanced (C1 and C2).

Should you choose to write this UJELP placement test, contact +27 (0)11 5592127 or ujelp1@uj.ac.za or +27 (0)11 5593488 or jo-annem@uj.ac.za



CONTACT DETAILS FOR INTERNATIONAL APPLICANTS

ADMISSIONS OFFICERS: INTERNATIONAL STUDENTS

Auckland Park Kingsway Campus (APK)

Mrs Mampou Ngqumshe
Tel no: +27 (0)11 559 4517
mampoum@uj.ac.za

Doornfontein Campus (DFC)

Mr Thabang Mothebe
Tel no: +27 (0)11 559 6510
thabangm@uj.ac.za

Auckland Park Bunting Road Campus (APB) and Soweto Campus (SWC)

Ms Palesa Makwela
Tel no: +27 (0)11 559 1027 or
+27 (0)11 559 5014
pmakwela@uj.ac.za

International Student Welfare and Academic Liaison Officer

Ms Shantelle Sass
Tel no: +27 (0)11 559 7780
ssass@uj.ac.za

Physical Address

University of Johannesburg
International House
Madibeng Building
Corner of Kingsway and University Road
Auckland Park
Johannesburg
South Africa

For more information visit www.uj.ac.za or
the Division of Internationalisation home page:
www.uj.ac.za/international.



Auckland Park Bunting Road Campus



Doornfontein Campus



Auckland Park Kingsway Campus



Soweto Campus

Campuses

The University of Johannesburg has four campuses, namely the Auckland Park Bunting Road (APB), Auckland Park Kingsway (APK), Doornfontein (DFC) and Soweto (SWC) Campuses. Each one has a unique identity and history, and we endeavour to deliver high quality education and services to all our students on all four campuses. You will attend classes at the campus where the qualification you are registered for is offered. If you are enrolling for a qualification that is offered at various sites of delivery, you will attend classes at the campus where you have been accepted for enrolment.

Languages of instruction

The University of Johannesburg is a multilingual institution and promotes the preferred languages of the province of Gauteng, namely English, Sesotho sa Leboa, Afrikaans and isiZulu. The language of instruction in all programmes is English.

Psychological Services and Career Development (PsyCaD)

PsyCaD is present on all four campuses and provides a variety of services to students, staff and external clients at UJ. These include counselling, career guidance and assessments. Information pertaining to the different services is detailed below.

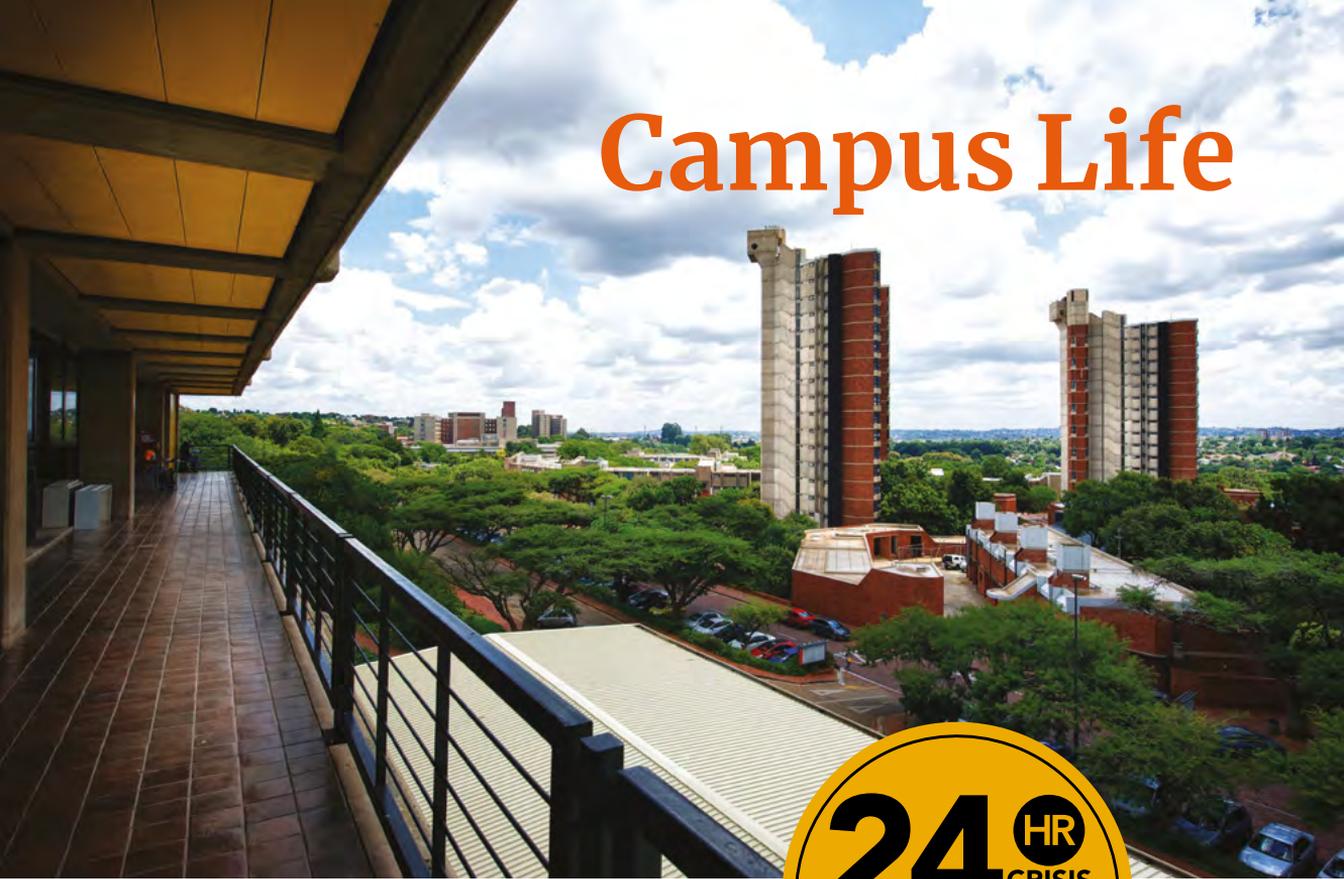
Career Services Unit

The Career Services Unit offers a range of career development (and related life planning skills) services to our current students and graduates. The Unit strives to actively and meaningfully engage with prospective and enrolled students, alumni, the various faculties, as well as the employer community.

PsyCaD, with offices across all four UJ campuses, offers the following services to all its clients:

- Career assessments
- Career counselling
- Advisory and walk-in services
- Practical skills for becoming a part of the

Campus Life



working world, such as CV writing, job hunting, how to prepare for job interviews and much more!

- Workplace readiness workshops
- Career Resource Centres where students may access a variety of printed and electronic career and company information resources.
- Graduate Recruitment Programme that is well supported by a variety of top national and international companies. View the programme on YourCareer portal and register to attend company talks and employer showcases all year round!

Please contact UJ PsyCaD Career Services for more details or an appointment:
011 559 3333

Follow us! www.uj.ac.za/psycad
psycadinfo@uj.ac.za
[@UJCareerService](https://www.facebook.com/PSyCaDCareerServices)
[facebook.com/PSyCaDCareerServices](https://www.facebook.com/PSyCaDCareerServices)

Psychological Services

Psychological Services essentially focuses on different forms of counselling, including individual therapy, couples therapy, group

therapy and psycho-education. There is also an advisory (walk-in) service where students can receive immediate brief support and be directed to the appropriate resources/service. Support groups are available on request. The aim of these services is to provide students with the tools to improve their personal and academic functioning. This process can be beneficial towards personal growth and development.

Please contact PsyCaD on 011 559 3324 for more details or for an appointment.

The PsyCaD crisis line is a 24-hour service offered to UJ students who are in need of immediate support and guidance in a crisis. When students have to cope with a crisis, they can contact a counsellor for assistance on 082 054 1137. The crisis line counsellor can offer immediate emotional assistance, as well as practical referral information.

Assessment Services

The Assessment Team provides assessment services to UJ students and staff, as well as external clients. With valid, reliable, and scientifically sound assessment tools, assessment services are provided in a broad range of assessment areas.

The services offered by the Assessment Team include:

- Career Counselling Assessments
- Career Transition Assessments
- Psycho-educational Assessments
- Subject Choice Assessments
- Recruitment and Selection Assessments
- Learning Styles Assessments
- Personality for Self-Insight and Team Building

To learn more about PsyCaD Assessments, visit our dedicated website and the *LinkedIn* page UJ PsyCaD Assessment Services (<https://www.linkedin.com/feed/update/urn:li:activity:6412236717578944512>)
Website: <http://www.uj.ac.za/PsyCaD>

Disability Unit

The Disability Unit provides reasonable accommodation with regards to academic and technological support required by students with disabilities. The following are some of the services offered to students with disabilities:

- Collaboration between the relevant faculty and the student to ensure the specialised support required by the student
- Support with access related issues and campus orientation
- Reasonable accommodation support for tests and examinations
- The provision of accessible learning material and aids, e.g. electronic, braille, and enlargements
- Computer training and technological support with regards to assistive devices
- Psycho-social support for students with Disabilities
- A specialised work environment and computer laboratories equipped with

state of the art assistive technology and specialised software

- Assistance with appropriate residence placement
- Assistance with bursary application

Prospective students are encouraged to contact the Disability Unit for more information.

Email: disabilityunit@uj.ac.za

Tel: 011 559 3745

Library and Information Centre (LIC)

The libraries on all our campuses support the academic and research needs of students. They ensure access to books, periodicals, electronic databases and the Internet. Knowledgeable staff members are available to train students in the use of all information sources. For more information, visit the library web page at <http://www.uj.ac.za/EN/Library/Pages/default.aspx>. The web page also gives access to the library catalogue (UJLink) and the electronic databases.

Putting learning in your hands

The University introduced handheld devices into first-year classrooms in 2014, in a bid to connect the young minds with the world of e-knowledge they are growing into, and transform their ability to contribute and compete globally. You will use your handheld device in a multitude of ways: to manage your modules and timetables, review your module learning guides, check your marks, access e-books and other study and administrative requirements. Providing information and engagement, these devices will bring a new and powerful immediacy, collaboration and ease of access to studies.

Computer laboratories and Wi-Fi hotspots

Various computer laboratories and easy access to our Wi-Fi hotspots give students access to educational software, the World Wide Web and email.



UJ Arts & Culture

UJ Arts & Culture is at the forefront of the arts sector in Johannesburg, constructively engaging established and emerging artists, developing audiences and creating places and spaces which allow young people from all backgrounds and cultures to work together, to redefine their boundaries and themselves.

Located within the Division of Institutional Advancement, UJ Arts & Culture produces and presents world-class student and professional arts programmes that align to the UJ vision. Practical experience, performance opportunities in a range of genres and community engagement initiatives are available to UJ students, staff, alumni and the general public on all four campuses. Contact the relevant cultural office for details:

- Soweto: 011 559 5678
- Doornfontein: 011 559 6959
- Bunting Road: 011 559 1309
- Kingsway: 011 559 4674

The UJ Arts Centre is located on the Kingsway Campus and comprises an art gallery, a 436-seater state of the art theatre, dance studios and choir rooms. Other facilities include the intimate Experimental Theatre on the Kingsway Campus and the 150-seater Con Cowan Theatre and dance studios on the Bunting Road Campus.

These venues also serve as receiving houses for professional South African and international productions, concerts, exhibitions, conferences and cultural events. For regular updates and information, like the Facebook page (University of Johannesburg Arts & Culture) or follow @UJArtsCentre on Twitter.

For further information call 011 559 3058 or go to www.uj.ac.za/arts



Primary Health Care Service

Full-time nursing sisters at our Campus Health Service are qualified to deal with a wide range of minor medical problems. They offer Primary Health Care services that include; treatment of minor medical problems, health education, the screening and monitoring of chronic conditions, reproductive health care (e.g. family planning), travel health, as well as free and confidential HIV counselling and testing (HCT).

Centre for Academic Technologies (CAT)

The Centre for Academic Technologies (CAT) supports your learning through the use of technology. Get a head start in your studies with our training in basic computer and tablet skills, as well as face-to-face and online support from our Helpdesk. Via our online portal, **uLink**, you have access to everything you need to know as a student at UJ. Blackboard is our Learning Management System (LMS) where you find all your learning material and activities for the modules you are registered for. You can also download your Blackboard app from your app store. For help, please email us at uhelp@uj.ac.za or call us on 011 559 3580.

UJ Sport

University of Johannesburg Sports strive to produce High Performance programs for men and women that are characterised by excellence. In addition, the Department strives to be recognized as a campus leader in terms of its ethics, non-discrimination, and unquestioned fiscal integrity. Excellence in inter campus and institutional programs is determined by academic achievement and the development of character, maturity and a sense of fair play in our sport programs. It, moreover, engenders support for the University among its many constituent groups including students, faculty, alumni, and friends on local, provincial and national levels. In striving to become a leader among our peers, the Department subscribes fully to the philosophy and regulations set forth by the student sport and national federations and operates within the fiscal regulations and non-discriminatory procedures established by the University of Johannesburg Legislature.

It is the philosophy of the Department that our athlete-students will be strongly encouraged



and supported in their endeavours to progress toward an academic qualification while simultaneously participating in an inter-university sports program whose environment is consistent with the highest standards of academic scholarship, sportsmanship, ethics, and institutional loyalty. Finally, the decisions and priorities of the Department should always focus on our athlete-students; first as individuals; second, as students; and third, as athletes. www.uj.ac.za/ujsport

Protection Services

Protection Services personnel are on duty 24 hours a day to ensure the safety and welfare of students, staff and visitors to the campuses and to control traffic and parking. They are also responsible for emergency assistance, fire warnings and first aid on campuses. For help, call us on 011 559 2555.

Student Centres

Equipped with meeting places, restaurants, cafeterias, recreational facilities and even shops for added convenience, our campuses are like independent villages in the city. Some of our

student centres house banks, bookshops, medical doctors, hairdressers, gift shops, PostNet and a supermarket. You will also never have to run on an empty stomach as all the campuses have cafeterias or coffee shops. After all, we know that sharing a sandwich with someone special just may be a life-changing experience!

Student Accommodation

A residence is a community in which one meets a range of diverse students and may forge life-long friendships. In order to experience university life to its fullest, why not reside on campus? The University of Johannesburg offers students a wide selection of comfortable accommodation, which ranges from various types of residences to fully equipped apartments. Staying in a University of Johannesburg residence is an extension of your education, and you can benefit from all facilities and services, which are also sources of social enrichment, such as study centres, campus libraries, cafeterias, restaurants and sports facilities within easy walking distance of the lecture halls, life skills and peer tutoring programmes. Like-minded students from all over the country, who could all become your friends,



will surround you. Apart from our academic programme, we offer extramural activities, such as the first year concert, debate, poetry sessions, indigenous games, a choir festival, a play festival, community service, and many socially engaging activities to create a vibrant residence life.

If you would like to apply to stay on campus, please submit a online Residence Application. Applications must reach the University by 30 September. **You may only stay on the campus where you attend your studies.** An amount of R1220 residence deposit will automatically be charged to the student's account once he/she registers online.

Please note the academic admission to the University does not ensure automatic admission to a residence. The University will inform you via email, sms or in writing, of the outcome of your residence application.

Privately owned student accommodation

The University of Johannesburg has private accredited off-campus accommodation available should your application for a UJ residence not be successful. For more information on these facilities, please contact the Privately Owned Student Accommodation (POSA) Office situated on Auckland Park Bunting Road Campus on 011 559 1040.

Residence Enquiries

Auckland Park Bunting Road Campus (APB)

Ladies' Residences: 011 559 1566

Men's Residences: 011 559 1566

Auckland Park Kingsway Campus (APK)

Ladies' Residences: 011 559 2092

Men's Residences: 011 559 3022

Doornfontein Campus (DFC)

Ladies' Residences: 011 559 6552

Men's Residences: 011 559 6552

Soweto Campus (SWC)

Ladies' Residences: 011 559 5015

Men's Residences: 011 559 5015

Day Houses

For purposes of bringing students together, provide educational opportunities beyond classroom, recreational activities and life skills the University of Johannesburg established day houses as a support structure for students who are not living in UJ residences. The main objective of Day Houses is to create a platform that enhances academic excellence, the celebration diversity within the community, and holistic development of students.

Members of Day Houses enjoy all benefits that are enjoyed by residence students. Each Day house has its own unique culture. You are welcome to join a day house of your choice.

BURSARIES

Merit bursaries

Academic merit bursaries are awarded annually on the grounds of exceptional academic achievement. This is determined according to marks obtained in the six best subjects (excluding LO) on your senior certificate. Your final senior certificate will determine your first year bursary. Bursaries for second and third year studies will be awarded according to the average obtained in the June and December University examinations.

Orange Carpet

The Orange Carpet rewards programme is a UJ initiative to further recognise top achievers. The objective of the campaign is to allow top-performing learners early conditional admission to the University as well as special benefits. To qualify for these benefits, a learner must obtain at least an Admission Point Score (APS) of 37 and above with a level 6 or higher in all subjects in either their final grade 11 or final grade 12 results. Final acceptance, for applicants conditionally admitted based on their final grade 11 results, will be dependent on the learner maintaining these results in their final grade 12 results.

Final admission to the Orange Carpet initiative for applicants writing final grade 12 other than the NSC or IEB, will be based on the discretion of the relevant Faculty.

This initiative begins from February and closes with all undergraduate programmes on 30 September. Submit your application without delay or call Student Marketing for any enquiries: 011 559 6680.

APS (Admission Point Score)	Bursary Value*
37-39	50%
40-41	75%
42	100%
Higher than 42	100% + R5 485

* *Please note: Bursary values are based on a specific curriculum's tuition fees. The APS will only be calculated on the best six Grade 12 subjects obtained.*

* *Life Orientation is NOT calculated in the APS.*

Only prospective students who are entering for their first undergraduate studies are eligible for the Orange Carpet initiative. Prospective students who have already undertaken studies at UJ or elsewhere are not eligible for this initiative.

Leadership bursary

The President, Vice-President, Secretary or Treasurer of a secondary school body who enrolls at the University will receive a bursary of R1 650.



Culture and sports bursaries

The University offers many cultural activities and sports opportunities, as well as a large number of bursaries in these fields. Sports bursaries are awarded for achievement at provincial or a higher level. Applications for sports bursaries must be submitted on the prescribed bursary application form obtainable from the Sports Bureau. Closing date for applications is 30 September.

Cultural Bursaries are awarded to members of the UJ Arts & Culture groups.

Enquiries: Culture bursaries: 011 559 2034 or
Sports bursaries: 011 559 2252

Loans

National Student Financial Aid Scheme (NSFAS)

Study grants vary according to family income and cover the actual costs of studies for accepted undergraduate students. Applications for NSFAS loans must be submitted on the prescribed loan application form obtainable from the Division of Bursaries and Loans.

Closing date for NSFAS applications:
29 November 2020 for 2021 registration.

Website: www.uj.ac.za/nsfas

Enquiries:

Auckland Park Bunting Road Campus
011 559 1193 / 1250 / 1173 / 1594

Auckland Park Kingsway Campus
011 559 3642 / 3906 / 4035 / 3768 / 3575

Doornfontein Campus
011 559 6195 / 6412 / 6063

Soweto Campus
011 559 5507 / 5508

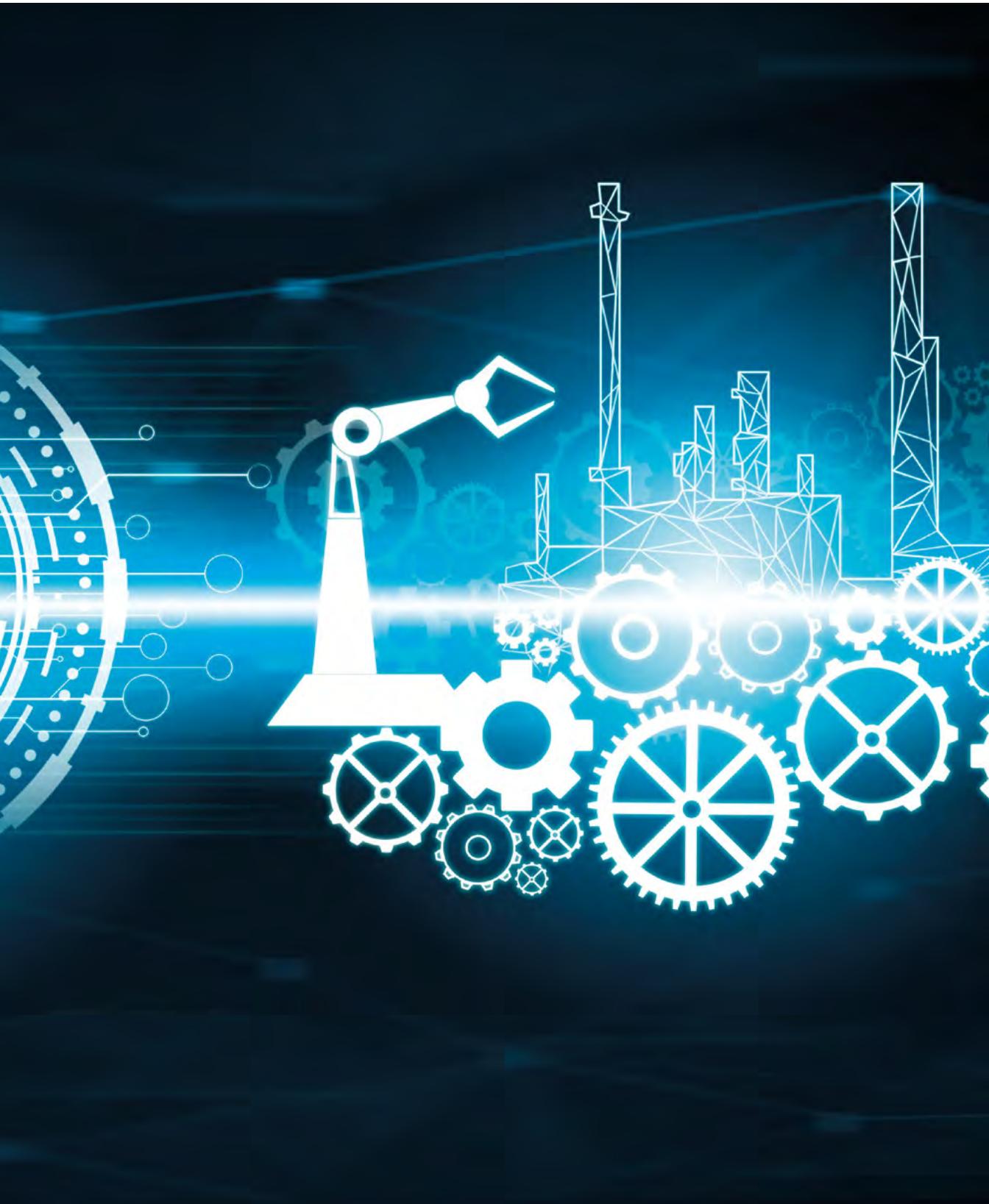
Email: nsfas@uj.ac.za

Edu-loan

Study loans are available to registered students.

Enquiries: Edu-loan Customer Services
086 055 5544





Reasons for studying at UJ

UJ offers not only a special programme called the First Year Experience to help orientate students throughout the first year but we also offer a Senior Student Experience that gears students towards the workplace!

UJ's 2020 GLOBAL UNIVERSITY RANKINGS

Shanghai Ranking

- **Global Ranking of Academic Subjects (GRAS):**
 - Hospitality & Tourism Management:* #20 in the world, and 1st in South Africa and Africa
 - Sociology:* Top 150 in the world, and 1st and only one in Africa
 - Education:* Top 300 in the world, and 1st in South Africa and Africa
 - Chemical Engineering:* Top 300 in the world, and 1st in South Africa and Africa
 - Political Sciences:* Top 300 in the world, and joint 1st in South Africa and Africa
 - Earth Sciences:* Top 300 in the world, and 2nd in South Africa and Africa
 - Geography:* Top 300 in the world, and 3rd in South Africa and Africa
 - Physics:* Top 400 in the world, and joint 2nd in South Africa and Africa
 - Ecology:* Top 500 in the world

Quacquarelli Symonds (QS)

- **World Rankings:**
 - 439 in the world (up 62 places from 501-510), in the Top 1.4%
 - 4th in Africa
 - 3rd in South Africa
- **QS Subject Rankings:**
 - English Language & Literature:* Top 250 in the world, and joint 3rd in South Africa
 - Chemical Engineering:* Top 350 in the world
 - Economics & Econometrics:* Top 450 in the world
 - Mechanical, Aeronautical & Manufacturing Engineering:* Top 450 in the world
 - Physics & Astronomy:* Top 500 in the world
 - Chemistry:* Top 550 in the world
 - Medicine:* Top 600 in the world
- **Other QS Rankings:**
 - QS Under 50 (Young) Rankings:* 61-70 (up from 81-90), and 1st and only one in Africa
 - QS Graduate Employability Rankings:* Top 500 in the world, and joint 5th in South Africa

Times Higher Education (THE)

- **World Rankings:**
 - 601-800 in the world
 - Joint 7th in South Africa
- **THE Subject Rankings:**
 - Law:* Top 201+ in the world
 - Education:* Top 300 in the world, and joint 3rd in South Africa
 - Psychology:* Top 400 in the world, and 2nd in South Africa
 - Arts & Humanities:* Top 400 in the world, and joint 3rd in South Africa
 - Social Sciences:* Top 400 in the world
 - Business & Economics:* Top 600 in the world
 - Engineering & Technology:* Top 600 in the world
 - Clinical, Pre-Clinical & Health:* Top 600 in the world
 - Computer Science:* Top 800 in world
 - Physical Sciences:* Top 800 in world
- **Other THE Rankings:**
 - THE Young Rankings:* 151-200, and 3rd in South Africa
 - THE Emerging Economies Rankings:* #118, and 7th in South Africa

US News & World Report's Best Global Universities Rankings (BGUR)

- **World Rankings:**
 - 378 in the world
 - 5th in South Africa
- **BGUR Subject Rankings:**
 - Chemistry:* #280 in the world, and 1st in South Africa
 - Geosciences:* #222 in the world, and 2nd in South Africa
 - Engineering:* #392 in the world, and 2nd in South Africa
 - Physics:* #289 in the world, and 3rd in South Africa
 - Social Sciences & Public Health:* #287 in the world
 - Plant & Animal Science:* #424 in the world
 - Environment/Ecology:* #463 in the world

Grab the opportunity to participate in a variety of sports and train alongside Olympians and Paralympians on state-of-the-art pitches, tracks and fields, or just keep fit by joining one of the gyms on each of our 4 campuses.

Be part of a young, vibrant and agile university that reflects and adapts easily to our country's aspirations, while maintaining a global relevance through numerous international partnerships.



200 Internationally respected and accepted qualifications.

www.uj.ac.za

Join a university that cares enough to have raised over R300 million since the start of 2016 in order to support of the Missing Middle Campaign. UJ also ensures that more than 6 000 needy students have two healthy meals per day.

Study in the vibrant City of Gold – the economic hub of South Africa. Join a vibrant, cosmopolitan, progressive group of students and academics on their way to re-imagining the future!

UJ offers an amazing on-campus experience whether you live in one of UJ's residences, belong to a dayhouse or whether you just want to socialise at the Student Centres on all campuses.

We ensure the health, safety and security of all our students through our own on-campus health services and UJ Protection Services.

Did you know that during the first five years of UJ's existence it doubled its targeted research output and to this day, continues to break records!

Please bear in mind that UJ (and most other universities for that matter) only have a certain number of spaces available for first-year applicants and only the best learners will be selected to attend the University. Ensure that you apply on time in your Grade 12 year. Applications open in April and close on 30 September 2021.

CONTACT DETAILS

Faculty of Engineering and the Built Environment

Tel: +27 (0)11 559 6588 /
+27 (0)11 559 2599

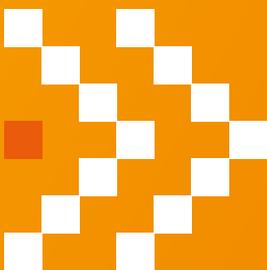
Email: web-engineering@uj.ac.za

Facebook: [Engineering@UJ](#)

Twitter: [@EngineeringUJ](#)

Youtube: [UJEngineering](#)

Website: www.uj.ac.za/faculties/febe



#UJFEBE