

# FACULTY

*At a Glance*

2023



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

## Faculty of Engineering, Built Environment and Information Technology

Fakulteit Ingenieurswese, Bou-omgewing en  
Inligtingtegnologie / Lefapha la Boetšenera,  
Tikologo ya Kago le Theknolotši ya Tshedimošo

Make today matter

[www.up.ac.za](http://www.up.ac.za)



## 1956

The Faculty of Engineering, Built Environment and Information Technology (EBIT) was established in 1956.

# LEGACY OF EXCELLENCE

## 1908

The University of Pretoria was established in 1908. Today, it is one of the largest research universities in South Africa. UP has transformed into a dynamic university community of staff and students who come from a range of diverse backgrounds and cultures showcasing South African and global societies.



# TEACHING & LEARNING



**Our educational approach has a strong focus on inclusivity and equitable access to education, but ultimately on equity of outcomes.**

UP effectively uses contact sessions in traditional lectures, seminars, laboratories and practical sites, together with online learning platforms. This has enabled access and success for an increasing number of students. The teaching and learning approach is based on inquiry-based learning, hybrid learning and community-based learning. This means that students can ask questions and do research in their field to learn and discover answers on their own; while also being taught in a classroom environment and accessing additional resources online.

# VISION & GOALS



## OUR VISION IS TO BE

A leading research-intensive university in Africa, recognised internationally for its quality, relevance and impact, and also for developing people, creating knowledge and making a difference locally and globally.



## OUR GOALS ARE TO

1. Enhance access and successful student learning
2. Strengthen the University's research and international profile
3. Foster and sustain a transformed, inclusive and equitable University community
4. Optimise resources and enhance institutional sustainability
5. Strengthen the University's social consciousness and its impact on society



# HYBRID LEARNING

Through UP's hybrid model of teaching and learning, part of the learning is dependent on access to the online learning management system known as ClickUP.

A system is in place for students to buy their own devices at very competitive rates but more than **6 000** computers are available in computer laboratories across all campuses and within residences for student use. There are Wi-Fi hot spots across all campuses for use by students with their own devices.



FACULTY OF ENGINEERING, BUILT ENVIRONMENT  
AND INFORMATION TECHNOLOGY

# EBIT

Global technology is evolving on an exponential scale. In answer to this, the Faculty of Engineering, Built Environment and Information Technology is developing sustainable technologies for inclusive societies. The Faculty prides itself on equipping a generation of innovators to innovate our tomorrow.

**28%**

EBIT produces an estimated **28%** of South African engineers



## ACADEMIC OFFERING

**29**

undergraduate  
degree programmes

**140**

postgraduate  
degree programmes

SCHOOL OF ENGINEERING  
SCHOOL FOR THE BUILT ENVIRONMENT  
SCHOOL OF INFORMATION TECHNOLOGY  
GRADUATE SCHOOL OF TECHNOLOGY MANAGEMENT

**14**

specialised academic  
departments

## FACILITIES

EBIT boasts over **90 laboratories** across three of the  
University's campuses.

This includes the state-of-the-art **Engineering 4.0 Complex.**

# RESEARCH EXCELLENCE

72%

Academic staff members with a doctorate



RESEARCH FOCUS AREAS

- Water and Environmental Engineering
- Minerals and Materials Beneficiation
- The Fourth Industrial Revolution (4IR)
- Smart Cities and Transportation
- Big Data Science, ICT, and Technology and Innovation Management
- Energy

100

NRF-rated researchers

18

Externally funded research chairs

13

Research centres and institutes

## QS-RATED SUBJECTS

1

Chemical engineering

2

Computer science and information systems

3

Electrical and electronic engineering

4

Mechanical and aeronautical engineering

5

Mineral and mining engineering

6

Architecture and built environment

# RANKINGS



**TOP 1%**

of engineering schools in the world

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**TOP 352**

in the world for engineering and technology  
(featuring in the top 550 in **FIVE** different engineering and  
technology subject areas)

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**TOP 33**

in the world for mineral and mining engineering

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**TOP 200**

in the world for architecture and built environment

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**#1**

in South Africa for electrical and electronic engineering  
(three years running)

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**#1**

in South Africa for materials science and metallurgical engineering  
*Minerals Education Trust Fund*

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*Rankings based on 2021/22 QS Rankings & ISI Essential Science Indicators*

# ENGINEERING 4.0



EBIT's state-of-the-art Engineering 4.0 Complex is a research and training hub for smart transport systems and smart cities in partnership with the SANRAL, the CSIR and York Timbers. Its research will support the economic growth of South Africa through improved understanding of vehicle-pavement interaction. Research conducted at Engineering 4.0 will contribute to UP's ranking as **94<sup>th</sup>** in the world for contributions to SDG 9: Industry, Innovation and Infrastructure.

## JCP

### COMMUNITY-BASED PROJECT MODULE

Through the Faculty's compulsory community-based project module (JCP), students participate in community service and service-learning projects for 40 hours during the course of their studies.

**23 000<sup>+</sup>**

students have completed the JCP module since its inception in 2005

## ENGAGE

### ENGINEERING AUGMENTED DEGREE PROGRAMME

The ENGAGE programme provides a carefully structured engineering curriculum to help students adjust to university life and cope with academic demands.

# The UP Way

It's as much about where UP comes  
from as to **where we are headed**

It's about UP's excellence, innovation,  
diversity, growth, kindness and  
**making a difference** every day

It's about what we do to...



[www.up.ac.za/ebit](http://www.up.ac.za/ebit)



ENQUIRIES

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**Make today matter**