STADIO
HIGHER EDUCATION

BACHELOR OF ENGINEERING TECHNOLOGY IN ELECTRICAL ENGINEERING

NQF 7 | MIN. 420 CREDITS | SAQA ID: 125107 | MIN. 3 YEARS
MODE OF DELIVERY: BLENDED CONTACT LEARNING

CAMPUS

DURBANVILLE
(CAPE TOWN)

DESCRIPTION

The Bachelor of Engineering Technology in Electrical Engineering is an undergraduate qualification designed to prepare students for careers as Engineering Technologists in the electrical engineering field. It develops the knowledge, understanding, practical abilities and professional skills needed to solve broadly defined engineering problems and to work responsibly within contemporary engineering environments.

The programme serves the electrical, electronic, energy and automation industries, while also preparing graduates for further postgraduate study and for the educational requirements toward registration as a Professional Engineering Technologist with ECSA.

The curriculum is industry oriented and aims to equip graduates to apply established and emerging engineering technologies to real-world problems.

ADMISSION REQUIREMENTS

Applicants may be admitted with one of the following:

A Senior Certificate (SC) with:
- a minimum symbol of D on Higher Grade in Mathematics, or C on Standard Grade in Mathematics, and
- a minimum symbol of D on Higher Grade in Physical Sciences, or C on Standard Grade in Physical Sciences

OR

A National Senior Certificate (NSC) with:
- a minimum of 50% in four 20-credit subjects
- a minimum of 40% in English Home Language or First Additional Language
- a minimum of 50% in Physical Sciences or Technical Science
- a minimum of 60% in Mathematics or Technical Mathematics

OR

A National Senior Certificate Vocational Level 4 [NC(V)] with:
- a minimum of 70% in three fundamental subjects, including English, Mathematics and Engineering Science
- a minimum of 70% in four vocational subjects

Scan to learn more:

OTHER ACCESS PATHWAYS

HCME and HCRE Graduates

Students who have completed the STADIO Higher Certificate in Engineering in Renewable Energy Engineering or the Higher Certificate in Engineering in Mechatronic Engineering, and who meet the institutional admission criteria, may be admitted to the programme provided they received an average of 60% or above, and a minimum of 60% for Mathematics.

ADDITIONAL ADMISSION REQUIREMENT

These STADIO students may also apply for subject recognition for modules in the the first semester of the degree.
RPL

Applicants who do not meet the formal admission requirements but have relevant work experience or prior learning may apply for admission through Recognition of Prior Learning (RPL). STADIO admits a maximum of 10% per cohort via RPL.

SPECIFIC REQUIREMENTS

EQUIPMENT REQUIREMENTS

Registered students will be required to have access to the following equipment before their studies can commence:

- Smart device suitable for online learning
- USB to transfer information between devices and locations
- Laptop compatible with the software covered in the programme.

SYSTEM REQUIREMENTS

Students should have access to:

- Reliable internet access
- A web browser such as Chrome, Edge, or Firefox
- Microsoft Word and PDF viewing software
- The ability to scan and upload documents
- Email and mobile communication tools

ACCESS TO TECHNOLOGY

Students will make use of online learning platforms for access to:

- Learning materials and resources
- Assessments and submissions
- Communication and feedback

Continuous access to these systems is essential for academic success.

ADDITIONAL EXPENSES:

The following costs may arise during the programme. These are not included in the tuition fees and should be budgeted for accordingly:

- Specialised stationery, textbooks, or equipment
- Printing and presentation costs
- Practical components
- Industry visits (petrol, entrance fees etc)

STADIO will provide laboratories with all the equipment students need for the practical sessions. Students are also provided with a toolkit and multimeter to use in the laboratories. While the School will provide essential consumables, every student must obtain the necessary electronic components and wires to build small electronic circuits for practical experiments. We will provide students with the list of required items at the start of the semester.

LAPTOP REQUIREMENTS [MIN. SPECIFICATIONS]:

Laptop compatible with the software covered in the programme:

- Office
- Altair
- Solidworks
- Siemens SIMATIC Win CC & TIA Portal & Logo (PLC & SCADA)
- Python
- C# / C++
- Arduino and Raspberry Pi (hardware) software

CURRICULUM OUTLINE

SEMESTER 1	1st YEAR	2nd YEAR	3rd YEAR
Compulsory (All)	Electromechanic Technology I EMTD152 (20 credits)	Digital Systems II DIGS262 (20 credits)	Control Systems III CSYS372 (20 credits)
	Engineering Mathematics I EMAD152 (20 credits)	Engineering Mathematics III EMA262 (20 credits)	Design Project IIIA DPAE372 (20 credits)
	Engineering Physics I EPHD152 (10 credits)	Engineering Programming II EPR262 (10 credits)	Electrical Machines III ELM372 (20 credits)
	Engineering Professional Skills EPSD152 (20 credits)	Industrial Electronics II INDE262 (20 credits)	Research and Technology Management III RTM372 (10 credits)
SEMESTER 2	**1st YEAR**	**2nd YEAR**	**3rd YEAR**
Compulsory (All)	Digital Electronics I DEL152 (20 credits)	Communication Technology II COMT262 (20 credits)	Design Project IIIB DPBE372 (20 credits)
	Electrical Technology II ETE152 (20 credits)	Machine Learning Applications II MLA262 (10 credits)	Energy Management III EMAN372 (10 credits)
	Engineering Mathematics II EMA162 (20 credits)	Networks II NET262 (20 credits)	Industrial Process Automation III IPA372 (20 credits)
	Engineering Programming I EPR152 (10 credits)	Renewable Energy Technologies II RET262 (20 credits)	Power Management and Protection Technology III PMPT372 (20 credits)
CREDITS PER YEAR	**140**	**140**	**140**

ARTICULATION POSSIBILITIES

Successful graduates may articulate vertically to a Bachelor of Engineering Technology Honours in Electrical Engineering or a relevant Postgraduate Diploma in Engineering Technology at NQF Level 8, subject to admission requirements. The programme also allows for horizontal articulation possibilities in cognate engineering qualifications, depending on institutional requirements, RPL and/or CAT.

CAREER OPPORTUNITIES

Graduates may pursue roles such as:

- **ELECTRICAL TECHNOLOGIST**
- **INSTRUMENTATION AND CONTROL TECHNOLOGIST**
- **SYSTEMS TECHNOLOGIST**
- **TEST AND DESIGN TECHNOLOGIST**

Graduates may also apply for technician-level roles in related areas, and some employers may place graduates in engineer-track positions depending on role requirements and organisational structure.

PROFESSIONAL REGULATION

The programme meets the requirements of the Engineering Council of South Africa (ECSA) and received ECSA endorsement. It is designed as the educational base toward registration as a Professional Engineering Technologist.

Once STADIO have offered more than 50% of the programme modules, ECSA will visit STADIO for a Provisional accreditation visit of the degree programme. When the programme has produced the first graduates, then ECSA will visit STADIO for a full accreditation of the degree programme as per the policy and standards of ECSA.