

## Bachelor of Engineering Technology in Power Engineering

**Location:** Steve Biko Campus (S7 Level 3)

### Description of the Programme

This career is related to the generation and distribution of electricity for power, heat and light. The technologist in this field is concerned with designing, developing, installing, fault-finding and testing of electrical motors, generators, alternators, transformers, transmission lines, cables and switchgear. He can also work as a consultant in his own right to design and manage electrical projects when he has registered as a Professional Technologist.

### Working Conditions

The technologist is not office bound but can be called upon to work on plant and installations at times, both indoor and outdoor. Hours are generally regular but, in emergencies, the technologist can be called upon to work after hours. He may be called on to travel locally and internationally to where the actual work is taking place.

### Personal Qualities Required

The prospective technologist must have an enquiring mind and enjoy problem-solving tasks. The technologist must be able to think in a logical, deductive manner, and must have good organisational abilities and be able to communicate effectively with colleagues at various levels.

A qualifying student will be competent to apply technical knowledge, engineering principles, and problem-solving techniques in the field of Electrical Engineering by operating within the relevant standards and codes in collaboration with other members of the engineering team.

The qualified person will be able to apply to register with the Engineering Council of South Africa (ECSA) as a Technologist-in-Training in the field of Electrical Engineering.

### Career Opportunities

The Electrical Power Technologist is mainly employed by organisations such as Eskom, eThekweni Municipality, Iscor, Siemens, Alusaf, manufacturers of electrical appliances and contractors. Many registered technologists also work as self-employed consultants or are employed at consulting firms. Prospects are good and the work increasingly challenging in a time when electrical technology is developing rapidly. The Bachelor of Engineering Technology is the first step in a process of advancement to Professional Technologist.

### Entry Requirements

Compulsory Subjects	NSC Rating	SC		NCV Level 4
		HG	SC	
English (home) OR English (additional) (1st)	4	E	C	60%
Mathematics	4	E	C	70%
Physical Science o	4	E	C	70%
Life Orientation				60%
				+ 2 vocational subjects

Applicants with a NSC will be ranked according to the sum of their scores for Mathematics and Physical Science, subject to a minimum combined score of 120%.

### National Technical Certificate (N4)

Applicants who qualify for admission into degree studies at institutions of higher learning but do not meet the Maths and/or Physics requirements, may present the following N4 subjects for consideration for entry to this degree programme -

Maths and Engineering Science plus any two of: Electrotechnics N4, Industrial Electronics N4, Logic Systems N4. The above are all to be passed in the same exam sitting with a minimum of 50%. Students will then be ranked alongside the NSC students, according to the sum of their scores for N4 Mathematics and Engineering Science.

### FOREIGN QUALIFICATIONS

Foreign Qualifications must be evaluated in accordance with the G7 (9) or failing that, by the SAQA at full senior certificate level or higher.

**Please note:** Selection of students is strictly on merit. Where there are more students than places available, selection will be based on academic performance in English, Mathematics, and Physical Science.

Final selection is made at the full discretion of the Head of Department based on factors such as class size, equity etc.

### Admission Requirement based upon Work Experience, Age and Maturity

For admission to entry level DEGREE studies:

A person may, subject to such requirements as the Senate may determine, be admitted if such a person is in possession of a National Senior Certificate, Senior Certificate or an equivalent certificate, but lacks the minimum requirements for admission to the degree provided that:

(a) The person shall have reached the age of 23 in the first year of

registration and shall have at least:

three years' appropriate work experience; and/or capacity for the proposed instructional programme, which shall be assessed by a Senate-approved admission assessment comprising of a DUT Standardised Assessment Test for Access and Placement (SATAP), Academic Literacies (AL) & English for Academic Purposes (EAP) (2,5 hours) and/or an appropriate subject or programme specific written assessment designed and marked by the relevant Department; and the person has obtained

- A conditional certificate of exemption from the Matriculation Board (when in possession of the Senior Certificate (SC)); OR has met
- The requirements for Senate discretionary admission (when in possession of the NSC or equivalent), where Senate is satisfied the applicant has shown sufficient academic ability to ensure success, and that the person's standard of communication skills, and/or work experience are such that the person, in the opinion of the Senate, should be able to complete the proposed instructional programme successfully.
- The person's application for admission in terms of with work experience, age and maturity is approved prior to registration.

**Applicants intending to gain admission through work experience, age and maturity must submit their applications at least four months before commencement of the academic year.**

**NB:** For semester programmes there would be a single registration for semester 1 and semester 2 at the beginning of each academic year.

### First year Curriculum Semester One

Computing & Information Technology	CPIT101
Cornerstone	CSTN101
Engineering Mathematics IA	EMTA101
Engineering Physics IA	EPHA101
Projects I	PRJS101
Technical Literacy	TCLT101

### Semester Two

Mechanics of Machine I	MCHM101
Engineering Mathematics IB	EMTB102
Engineering Physics IB	EPHB101
Electrical Principles I	ELEP101
Analogue Electronics I	ANLE101
Digits IA	DGTE101

### Second year Curriculum Semester One

Mechanical Technology I	MTCH101
Engineering Mathematics 2a	EMTA202
Electrical Applications	EAPP101
Electrical Principles 2	ELEP201
Instrumentation and Control I	INCT101
Project Management	PMAN101
Computer Programming 2	COMP201

### Semester Two

Mechanical Technology 2  
Engineering Mathematics 2b  
Engineering Design  
Electrical Machine 1  
Power System 1  
Illumination

### Third year Curriculum

#### Semester One

Mechanical Technology 3  
Strength of Material 1  
Design Project 1  
Electrical Machine 2  
Power System 2  
Power Electronics

#### Semester Two

Environmental Engineering  
Strength of Material 2  
Design Project 2  
Utilization of Plant  
Electrical Protection  
Renewable Energy  
Principles of Management

MTCH202  
EMTB202  
EDRD101  
EMCH101  
PWRS101  
ILLM101

MTCH302  
STMT101  
DSPJ101  
EMCH201  
PWRS201  
PWEL101

EVEN101  
STMT201  
DSPJ201  
UTEPI01  
EPRT101  
RNES101  
PMGM101

### For Further Information

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DURBAN 4000  
Tel: 031 373 2062  
Fax: 031 373 2063  
Email: [reginan@dut.ac.za](mailto:reginan@dut.ac.za)

### Application Forms

Contact the Central Applications Office (CAO)

**CAO Code:** DU-D-BGH

### Address letters to:

Central Application Office  
Private Bag X06  
Dalbridge 4014

Tel: 031 268 4444

Fax: 031 268 4422

Apply online: <http://www.cao.ac.za>

**Closing date for applications:** 30 September 2019



## CAREER INFORMATION

BACHELOR OF ENGINEERING TECHNOLOGY IN

# ELECTRICAL POWER ENGINEERING

1 JANUARY – 31 DECEMBER 2020

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# 2020

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