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.

Entry Requirements

<table>
<thead>
<tr>
<th>Compulsory Subjects</th>
<th>NSC Rating</th>
<th>SC</th>
<th>SC</th>
<th>NCV Level 4</th>
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<tbody>
<tr>
<td>English (home) OR</td>
<td>4</td>
<td>E</td>
<td>C</td>
<td>60%</td>
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<tr>
<td>English (additional)</td>
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</tr>
<tr>
<td>Mathematics</td>
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<td>E</td>
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<td>70%</td>
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<tr>
<td>Physical Science</td>
<td>4</td>
<td>E</td>
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<td>Life Orientation</td>
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<td>60%</td>
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</table>

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
(b) A conditional certificate of exemption from the Matriculation Board (when in possession of the Senior Certificate (SC)); OR has met
(c) 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.
(d) 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
Cornerstone
Engineering Mathematics 1A
Engineering Physics 1A
Projects I
Technical Literacy
Compulsory

Semester Two
Mechanics of Machine I
Engineering Mathematics 1B
Engineering Physics 1B
Electrical Principles I
Analogue Electronics I
Digits 1A
Compulsory

Second year Curriculum

Semester One
Mechanical Technology I
Engineering Mathematics 2a
Electrical Applications
Electrical Principles 2
Instrumentation and Control I
Project Management
Computer Programming 2
Compulsory

Notes:
- NCV Level 4:
  - Electrical Principles 2a EMTA202
  - Electrical Applications EAPP201
  - Instrumentation and Control I INCIT101
  - Computer Programming 2 COMP201

- South Africa:
  - Steve Biko Campus (S7 Level 3)

- South African National Council for Qualifications (NQF)

- Minimum requirements for admission to the degree:
  - Three years’ appropriate work experience
  - A conditional certificate of exemption
  - Senate discretionary admission

- Admission assessment:
  - DUT Standardised Assessment Test for Access and Placement (SATAP)
  - Academic Literacies (AL)
  - English for Academic Purposes (EAP)

- Application for admission:
  - Work experience
  - Age and maturity

- Prospective technologists:
  - Enquiring mind
  - Enjoy problem-solving
  - Logical, deductive thinking
  - Good organisational abilities
  - Effective communication

- Career opportunities:
  - Electrical Power Technologist
  - Professional Technologist
  - Self-employed consultants
  - Consulting firms

- Working conditions:
  - Not office bound
  - Work on plant and installations
  - Hours vary, including after hours
  - Travel locally and internationally

- Personal qualities:
  - Enquiring mind
  - Enjoy problem-solving
  - Logical, deductive thinking
  - Good organisation
  - Effective communication

- Entry requirements:
  - Minimum combined score of 120%
  - Mathematics and Physical Science
  - National Technical Certificate (N4)
  - Senior Certificate or equivalent

- National Technical Certificate (N4):
  - Maths and Engineering Science
  - Electrotechnics N4
  - Industrial Electronics N4
  - Logic Systems N4

- Foreign qualifications:
  - Evaluated in accordance with G7 (9) or SAQA

- Admission requirements:
  - Work experience
  - Age and maturity

- Admission assessment:
  - DUT SATAP
  - Academic Literacies
  - English for Academic Purposes

- Senate discretionary admission:
  - Demonstrates sufficient academic ability
  - Communication skills
  - Work experience

- Application for admission:
  - Approved prior to registration

- First year curriculum:
  - Computing, information technology
  - Cornerstone
  - Engineering mathematics
  - Engineering physics
  - Projects
  - Technical literacy

- Second year curriculum:
  - Mechanical technology
  - Engineering mathematics 2a
  - Electrical applications
  - Electrical principles
  - Instrumentation and control
  - Project management
  - Computer programming

- Notes:
  - Refer to the table for detailed course codes
  - Refer to the notes for specific requirements and assessment methods

- Additional comments:
  - Admissions are based on merit
  - Senate has discretion in admission
  - Work experience may be considered
  - Age and maturity requirements

- Prospective technologists should:
  - Enjoy problem-solving
  - Have good organisational abilities
  - Communicate effectively

- Career opportunities are diverse:
  - Professional technologist
  - Consultant
  - Consulting firms
  - Self-employed

- Working conditions are varied:
  - On-site work
  - Travel locally and internationally
  - Varied hours

- Personal qualities are key:
  - Enquiring mind
  - Logical, deductive thinking
  - Organisational skills
  - Communication abilities

- Entry requirements are stringent:
  - Minimum score of 120%
  - Mathematics and Physical Science
  - N4 qualifications

- National Technical Certificate (N4) is essential:
  - Maths
  - Engineering Science
  - Electrotechnics
  - Industrial Electronics
  - Logic Systems

- Foreign qualifications are evaluated:
  - In accordance with South African standards
  - Demonstrates sufficient academic ability

- Admission requirements include:
  - Work experience
  - Age and maturity

- Admission assessment includes:
  - DUT SATAP
  - Academic Literacies
  - English for Academic Purposes

- Senate discretionary admission allows:
  - Demonstrates sufficient academic ability
  - Communication skills
  - Work experience

- Application for admission is:
  - Approved prior to registration

- First year curriculum includes:
  - Computing
  - Information technology
  - Cornerstone
  - Engineering mathematics
  - Engineering physics

- Second year curriculum includes:
  - Mechanical technology
  - Engineering mathematics
  - Electrical applications
  - Electrical principles
  - Instrumentation and control

- Additional notes for detailed course codes
- Specific requirements and assessment methods
- Additional comments on admissions and career opportunities
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<tr>
<th>Semester Two</th>
<th>MTCH202</th>
<th>EMTB202</th>
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**Third year Curriculum**

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**For Further Information**
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DURBAN 4000
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Fax: 031 373 2063
Email: 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

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