

Career Profile: Electrical Engineering Technologist

We see the results of electrical engineering all around us. Lighting in our homes, streets, offices and factories and the use of computers, appliances, equipment and machinery all rely on the application of electrical energy. Electrical engineering technologists get involved in all aspects of energy systems from the generation of electrical energy to its distribution and application. They can also work in the processing, storage and transmission of information. The field of electrical engineering offers technologists many possibilities for specialization. The technologist is expected to be creative and apply relevant engineering principles in order to find practical solutions to problems and challenges in his/her chosen specialization. The technologist works closely with engineers and technicians, and provides a link between the theoretical reference frame of the engineer and the more practical technical focus of the technician.

Education Requirements

National Senior Certificate (NSC)

For a career in electrical engineering students are advised to select English, Mathematics, and Physical Science and to add to this a selection from the designated subjects. These are subjects that are particularly suitable for tertiary study.

Students who study at an FET College must ensure that they take the appropriate subjects that will enable them to continue their studies at a University of Technology.

National Diploma / BTech

Tshwane University of Technology

National Diploma/BTech: Clinical engineering, Communication engineering, Digital Engineering, Electronic engineering, High-frequency technology, Power engineering - [COURSE BROCHURE](#)¹

University of Johannesburg

National Diploma/BTech: [Electronic and Computer engineering Technology](#)², [Electrical and electronic engineering science](#)³

Vaal University of Technology

National Diploma/BTech: [Electronic engineering](#)⁴, [Power engineering](#)⁵

¹ <http://www.fe.tut.ac.za/ReadContent.aspx?id=448>

² <http://www.uj.ac.za/Default.aspx?alias=www.uj.ac.za/compengineer>

³ <http://www.uj.ac.za/Home/tabid/2254/Default.aspx>

UNISA

National Diploma/BTech: [Clinical engineering](#)⁶, [Computer systems](#)⁷, [Electronics and electronic communication](#)⁸, [Mechatronics](#), [Power engineering](#)⁹, [Process instrumentation](#)¹⁰, [Telecommunications](#)¹¹

Admission requirements

The standard admission requirement for the BTech is a relevant National Diploma.

Registration as a professional engineering technologist

The purpose of professional registration is to ensure that only properly qualified people influence the health and safety of the population. Therefore, while registration is not compulsory, many tasks can only be performed by people registered at an appropriate level for the task.

A person who has obtained a recognised BTech degree is eligible for registration as Candidate Engineering Technologist. After gaining at least 3 years of appropriate practical experience an electrical engineering technologist may qualify as a Professional Engineering Technologist under the auspices of the Engineering Council of South Africa.

Possible Employers

- The registered electrical engineering technologist with the necessary experience and initiative can work as a consultant for any of the above-mentioned companies and organisations.
- Government
- [Transnet](#)¹²
- [Eskom](#)¹³
- [IsCOR](#)¹⁴
- [CSIR](#)¹⁵
- Municipalities
- Universities
- Manufacturers
- Engineering consultants

⁴ <http://www.vut.ac.za/metadot/index.pl?id=2367&isa=Category&op=show>

⁵ <http://www.vut.ac.za/metadot/index.pl?id=2374&isa=Category&op=show>

⁶ http://brochure.unisa.ac.za/brochure/showprev.aspx?d=l_4_23&f=p_NDEENCEN

⁷ http://brochure.unisa.ac.za/brochure/showprev.aspx?d=l_4_23&f=p_NDEENCOS

⁸ http://brochure.unisa.ac.za/brochure/showprev.aspx?d=l_4_23&f=p_NDEENEEC

⁹ http://brochure.unisa.ac.za/brochure/showprev.aspx?d=l_4_23&f=p_NDEENPEN

¹⁰ http://brochure.unisa.ac.za/brochure/showprev.aspx?d=l_4_23&f=p_NDEENPEN

¹¹ http://brochure.unisa.ac.za/brochure/showprev.aspx?d=l_4_23&f=p_NDEENEEC

¹² <http://www.transnet.co.za/>

¹³ <http://www.eskom.co.za/>

¹⁴ <http://www.iscor.co.za/>

¹⁵ <http://www.csir.co.za/>

Find out more

Find out more about electrical engineering, bursaries and jobs:

- [Institute of Electrical and Electronic Engineers](http://www.ieee.org/portal/site)¹⁶
- The [South African job board and recruitment portal](http://www.engineeringcareers.co.za/)¹⁷ for the South African engineering industry.

¹⁶ <http://www.ieee.org/portal/site>

¹⁷ <http://www.engineeringcareers.co.za/>

Are you suited to this career?

This quick quiz can help you to identify whether you are suited for this occupation. The questions are based on interests, characteristics and values typical of people who work as engineers.

Quiz	Yes	No
Do you have an inquiring, analytical mind?		
Do you enjoy Mathematics and Science?		
Are you good at analysing problems and finding solutions?		
Do you like to take initiative?		
Can you think creatively and come up with original ideas?		
Are you able to make decisions under pressure?		
Can you visualize abstract concepts?		
Do you work well with other people?		
Do you work in a systematic and organized way?		
Do you want to participate in projects that will benefit the long term development of the country?		

If you have mainly yes answers it may be an indication that this is an occupation to consider.