Bachelor of Engineering Technology in Electronic Engineering

Location: Steve Biko Campus, S-Block, S8 Level 3

DESCRIPTION OF THE PROGRAMME

The undergraduate programme in electronic engineering, which leads to the internationally accredited BEngTech degree, is designed to provide a broad foundation in electronic engineering through a combination of classroom lectures, online tools and extensive hands-on technical training and laboratory work and prepares the student for a career in the variety of electronic engineering fields as well as becoming a competent practicing engineering technologist or certificated engineer that will make a meaningful contribution to the economy and national development.

The programme will provide the student with a strong foundation in mathematics, physical sciences and the core fundamentals of engineering and blends theory, concept and application. Electronic engineering finds itself at the heart of the burgeoning Industry 4.0 and merges fields such as instrumentation, control systems, telecommunications, embedded and intelligent systems, data analytics and machine learning, automation and robotics, signal and image processing, smart factories and cities, green energy and the industrial IoT.

Some of the key attributes of the programme include the fostering of lifelong learnership, the need for continuous improvement, teamwork and the attainment of solid critical thinking and problem-solving skills. The BEngTech qualification will also allow for further study through articulation into the proposed postgraduate BEngTech Honours programme and, subsequently, a possible opportunity for Masters and Doctoral research.

Qualified candidates may register with the internationally affiliated Engineering Council of South Africa (ECSA) as Professional Engineering Technologists.

CAREER OPPORTUNITIES

Qualified electronic engineering professionals are highly sought after by industry. Although the core specialisations in the BEngTech electronic engineering programme are inclined towards instrumentation, control systems and telecommunications, an electronic engineer may find opportunities in a wide range of industries including microelectronics, fixed and wireless communications, networking, automation and robotics, intelligent systems, automotive, rail, renewable and green energy, paper, sugar, water, defence, aerospace, marine, software and ICT, systems analysis and machine learning and AI.

ENTRY REQUIREMENTS

In addition to the general admission requirements as stated in the General Rules, the following minimum requirements (or their equivalent) shall apply:
School leaving or TVET applicants who wish to enrol for the programme must apply through the CAO system by no later than 30 September of the previous year. The number of students enrolled in the programme is determined by the University and departmental growth policies and a ranking system is used to determine the number of candidates as required.

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

The subject NSC Mathematical Literacy will NOT be accepted as a substitute for the subject NSC Mathematics.
The exit certificate of the candidate must qualify the candidate for degree study at an institution of higher learning.

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%.

Prospective applicants may also present an NQF level 6 Diploma in Engineering for entry into the degree programme. A possibility of transfer of credits for cognitive previous studies would be considered dependent on the discipline and nature of the Diploma being presented.

National Technical Certificate (N4)

Prospective applicants that qualify for degree study at an institution of higher learning (Bachelor's Pass) but do not meet the departmental mathematics and/or physical science requirements may present the following N4 subjects for consideration for entry into this programme: Mathematics and Engineering Science, plus any two of the following: Industrial Electronics (or Electronics), Digital Systems (or Logic Systems) or Electrotechnics. NB. All four subjects must be written and passed (minimum of 50%) in the same sitting. Students that achieve a minimum combined score of 120 (based on the sum of their marks) for N4 Mathematics and Engineering Science will then be ranked alongside the NSC students.

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 test; 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 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.

CONTENT OVERVIEW AND ACCREDITATION LEVEL

First Year (Semester One)	Subject Code	HESQF Level	SAQA Credits
Engineering Mathematics IA	EMTA101	5	12
Engineering Physics 1A	EPHA101	5	12
Electrical Principles 1	ELEP101	5	12
Analogue Electronics 1A	ANLA101	5	12
Digital Electronics 1A	DGEA101	5	12
Computer and IT	CPUT101	6	8
Cornerstone 101	CSTN101	5	12
First Year (Semester Two)	**Subject Code**	**HESQF Level**	**SAQA Credits**
Engineering Mathematics IB	EMTB101	5	12
Engineering Physics IB	EPHB101	5	12
Electrical Principles 2	ELEP201	5	12
Analogue Electronics IB	ANLB101	6	12
Digital Electronics 1B	DGEB101	6	12
Technical Literacy	TCLT101	6	8
Second Year (Semester One)	**Subject Code**	**HESQF Level**	**SAQA Credits**
Engineering Mathematics 2A	EMTA201	6	12
Electronic Measurement	ELMS101	5	8
Fundamentals of Instrumentation 2	FIST201	6	12
Fundamentals of Communication 2	FCMC201	6	12
Electronic Circuit Design 2	ECDS201	6	12
Computer Programming 2	CPTP201	6	12
Microsystem Design 2	MCRD201	6	12

Second Year (Semester Two)	Subject Code	HESQF Level	SAQA Credits
Engineering Mathematics 2B	EMTB201	6	12
Fundamentals of Control Systems 2	FCNS201	6	12
Fundamentals of Networks 2	FNTW201	6	12
Electronic Circuit Design 3	ECDS301	6	12
Computer Programming 3	CPTP301	6	8
Microsystems Design 3	MCRD301	6	12
Third Year (Semester One)	**Subject Code**	**HESQF Level**	**SAQA Credits**
Digital Signal Processing 3A	DSPA301	7	8
Electronic Design Project 3A	EDPA301	7	12
Project Management	PJCT101	7	8
Process Instrumentation 3A *	PINA301	7	12
Control Systems 3A *	CSYA301	7	12
Process Control Systems 3A *	PCSA301	7	12
Communications and Networks 3A **	CNWA301	7	12
RF Engineering 3A **	RFEA301	7	12
Embedded Systems 3A **	EMSA301	7	12
Third Year (Semester Two)	**Subject Code**	**HESQF Level**	**SAQA Credits**
Digital Signal Processing 3B	DSPB301	7	8
Electronic Design Project 3B	EDPB301	7	12
Principles of Management	PRIM101	7	8
Process Instrumentation 3B *	PINB301	7	12
Control Systems 3B *	CSYB301	7	12
Process Control Systems 3B *	PCSB301	7	12
Communications and Networks 3B **	CNWB301	7	12
RF Engineering 3B **	RFEB301	7	12
Embedded Systems 3B **	EMSB301	7	12
Total			**424**

* Indicates electives for specialisation in control systems and instrumentation.
** Indicates electives for specialisation in telecommunications
***NB. The course structure and requisite modules are subject to alteration.

Closing date for applications: 30 September 2018

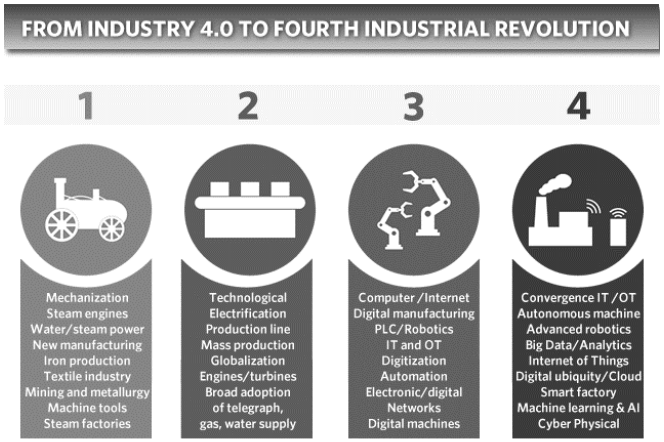
CAO Code: DU-D-BGL

For further information kindly contact:
Head of Department: Department of Electronic Engineering
Durban University of Technology
PO Box 1334
DURBAN 4000
Tel: (031) 373 2932
Fax: (031) 373 2744
Email: premi@dut.ac.za

For applications kindly contact:

Central Applications Office (CAO)

Address letters to:
Central Applications Office
Private Bag X06
Dalbridge 4014
Tel: (031) 268 4444
Fax: (031) 268 4422
Apply Online: http://www.cao.ac.za



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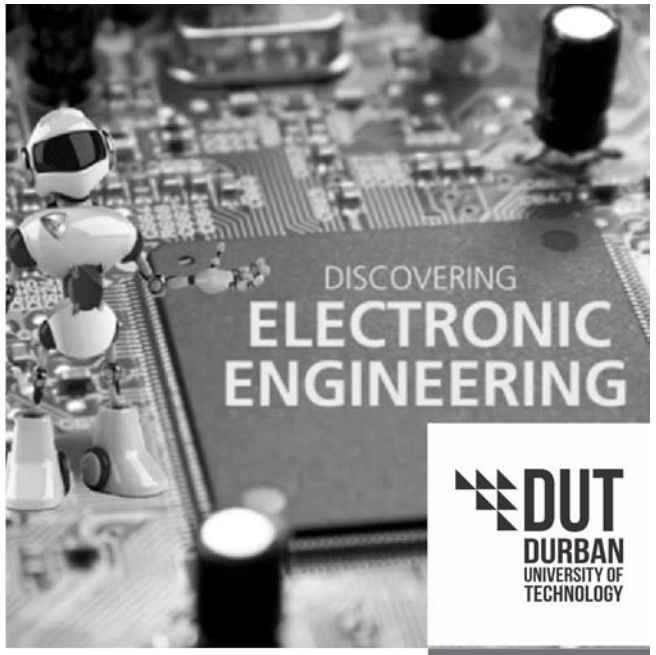

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CAREER INFORMATION

BACHELOR OF ENGINEERING TECHNOLOGY IN

ELECTRONIC ENGINEERING

1 JANUARY – 31 DECEMBER

2019