CAREER INFORMATION 2024

BACHELOR OF ENGINEERING TECHNOLOGY IN ELECTRONIC ENGINEERING

DUT
DURBAN UNIVERSITY OF TECHNOLOGY
INYUVESI YASETHEKWINI YEZOBUCHWEPHESHE

FACULTY OF ENGINEERING & THE BUILT ENVIRONMENT

DEPARTMENT OF ELECTRONIC & COMPUTER ENGINEERING

01 JAN - 31DEC 2024

Bachelor of Engineering Technology in Electronic Engineering

NQF Leve: 7

SAQA ID: 99514

Qualification Code: BNELC1

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 BEng Tech degree, is designed to provide a broad foundation in electronic engineering through a combination of classroom and/or online lectures, online tools, and extensive hands-on technical training as well as laboratory work. The qualification prepares the student for a career in the variety of electronic and computer 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 and computer engineering finds itself at the heart of the burgeoning Industry 4.0 and merges fields such as telecommunications, control systems, embedded and intelligent systems, data analytics and machine intelligence, automation and robotics, signal and image processing, smart factories and cities, green energy, AI 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 BEng Tech qualification will also allow for further study through articulation into the postgraduate NQF level 8 BEng Tech Honours programme, to be offered at DUT from 2022, and the subsequent opportunity for masters and doctoral research.
Qualified candidates may register with the internationally affiliated Engineering Council of South Africa (ECSA) as Professional Engineering Technologists and/or Professional Certified Engineers.

CAREER OPPORTUNITIES

Qualified electronic engineering professionals are highly sought after by industry. 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, banking, software and ICT, systems analysis and machine learning and AI.

ENTRY REQUIREMENTS

The minimum entry requirement is the National Senior Certificate or the National Certificate (Vocational) with appropriate module combinations and levels of achievement as defined in the *Government Gazette*, Vol. 751, No. 32131 of 11 July 2008, and in the
Government Gazette, Vol. 533, No. 32743, November 2009. In addition, the minimum admission requirements, rule G7, is stipulated in the General Rules Handbook.

Further to the above, the following are required for admission into BEng Tech (Electronic Engineering) programme:

Explanation of Points scale:

SENIOR CERTIFICATE(SC)		
SYMBOL	**HIGHER GRADE**	**STANDARD GRADE**
A	8	6
B	7	5
C	6	4
D	5	3
E	4	2
F	3	1
A	8	6
B	7	5

NATIONAL SENIOR CERTIFICATE(NSC)		
%	**LEVEL**	**POINTS**
90-100	7	8
80-89%	7	7
70-79%	6	6
60-69%	5	5
50-59%	4	4
40-49%	3	3
30-39%	2	2
20-29%	1	1

MINIMUM ADMISSION REQUIREMENTS

GENERAL ADMISSION REQUIREMENTS

A person will only be considered for registration for an instructional programme approved by the Institution's Senate if the person complies with:

(a) The minimum admission requirements stated in DUT general handbook (refer to DUT website for general handbook).

(b) Institutional faculty, departmental and/or instructional programme specific rules; and

MINIMUM ADMISSION REQUIREMENTS IN TERMS OF THE HIGHER EDUCATION QUALIFICATIONS SUB-FRAMEWORK (HEQSF)

G7 rule: For Bachelor's Degree:

> "a National Senior Certificate (NSC) as certified by the Council for General and Further Education and Training (Umalusi), with a minimum achievement rating of 3 for English and a minimum achievement rating of 4 in four NSC 20-credit subjects chosen from the NSC designated subject list"

Entry Requirements BET (Electronic Engineering)

NATIONAL SENIOR CERTIFICATE (NSC) (01 January 2009)		SENIOR CERTIFICATE (SC) (PRE 2009)			NATIONAL CERTIFICATE (VOCATIONAL) (NCV)	
NSC DEGREE ENTRY		**SENIOR CERTIFICATE (SC)**			**(NCV) – LEVEL 4**	
Compulsory Subjects	**NSC Rating Code**	**Compulsory Subjects**	**HG**	**SG**	**Compulsory Subjects**	**Mark**
English	4	English	E	C	English	60%
Mathematics	4	Mathematics	E	C	Mathematics	70%
Physical Science	4	Physical Science	E	C	Physical Science	70%
In addition: **TWO**	4					

recognized NSC 20 credit subjects as stated above						
					Life Orientation	60%
					In addition, **TWO** other additional vocational subjects at a minimum of 70%.	

NB:
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 100.

Other:
Applicants, that qualify for degree study (Bachelor's Pass) at an institution of higher learning, but do not meet the departmental mathematics and/or physical science requirements, may present the following N4 subjects, for consideration for entry to the BET programme:

- Mathematics and Engineering Science, plus any two of the following:
- Industrial Electronics OR Electronics
- Digital Systems OR Logic Systems
- Electrotechnics

The above subjects must be passed with a minimum of 50% and all in the same sitting. Students will then be considered alongside the NSC students according to the sum of their marks for N4 Mathematics and Engineering Science

OR

ADMISSION REQUIREMENTS 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.

CONTENT OVERVIEW AND ACCREDITATION LEVEL

The programme is structured according to the modules as referred to in the table below. All modules listed are compulsory to qualify in this programme. The programme is offered on a full-time basis and require attendance to lectures.

Tuition Fees

To assist you with your planning, the **2023** fees have been indicated. An increase for next year to accommodate the inflation rate can be expected.

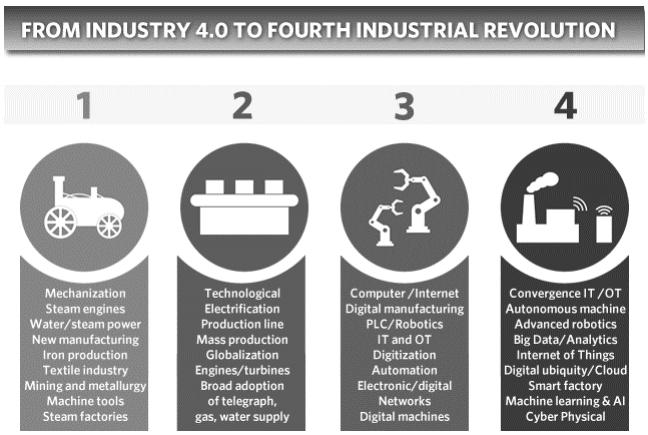
Please Note: DUT cannot be held liable for the fees in this brochure as the **2024** fees are not yet final

First Year Curriculum

Name of Module	Subject Code	HEQSF Level	SAQA Credits	2023 Fees
Semester One				
Engineering Mathematics 1A	EMTA101	5	12	R4400.00
Engineering Physics 1A	EPHA101	5	12	R4400.00
Electrical Principles 1	ELEP101	5	12	R4410.00
Analogue Electronics 1A	ANLA101	5	12	R4410.00
Digital Electronics 1A	DGEA101	5	12	R4410.00
Computer and IT	CPUT101	5	8	R3030.00
Cornerstone 101	CSTN101	5	12	R3580.00
TOTAL				**R28640.00**
Semester Two				
Engineering Mathematics 1B	EMTB101	5	12	R4400.00
Engineering Physics 1B	EPHB101	5	12	R4400.00
Electrical Principles II	ELEP201	6	12	R4410.00
Analogue Electronics 1B	ANLB101	6	12	R4410.00
Digital Electronics 1B	DGEB101	6	12	R4410.00
Technical Literacy	TELC101	5	8	R3040.00
TOTAL CREDITS SEMESTER 1&2			**148**	
TOTAL				**R25070.00**
Second Year Curriculum				
Semester Three				
Engineering Mathematics IIA	EMTA201	6	12	R4400.00
Fundamentals of Power Engineering IIA	FUPE201	6	8	R3040.00
Fundamentals of Instrumentation IIA	FIST201	6	12	R3490.00
Fundamentals of Signals and Systems IIA	FCMC201	6	12	R4410.00
Fundamentals of Microcontrollers IIA	MCRD201	6	12	R4470.00
Electronic Circuit Design IIA	ECDS201	6	12	R4410.00
Computer Programming IIA	CPTP201	6	12	R4410.00
TOTAL				**R28630.00**
Semester Four				
Engineering Mathematics IIB	EMTB201	6	12	R4400.00
Fundamentals of Control Systems IIB	FCNS201	6	12	R4410.00
Communication and Network Systems IIB	FNTW201	6	12	R4410.00
Electronic Circuit Design IIB	ECDS301	6	12	R6250.00
Embedded Systems IIB	MCRD301	6	12	R4470.00
Data Analytics and Computation IIB	CPTP301	6	8	R3030.00
TOTAL CREDITS SEMESTER 3&4			**148**	
TOTAL				**R26970.00**
Third Year Curriculum				
Semester Five				
Process Instrumentation IIIA	PINA301	7	12	R3230.00
Control Systems IIIA	CSYA301	7	12	R4410.00
EM Theory and Wireless Communication IIIA	RFEA301	7	12	R4410.00
Digital Signal Processing IIIA	DSPA301	7	12	R3030.00
Electronic Design Project IIIA	EDPA301	7	12	R5990.00
Innovation Management and Entrepreneurship IIIA	PJCT101	7	8	R3030.00
TOTAL				**R24100.00**
Semester 6				
Process Control Systems IIIB	PCSB301	7	12	R4410.00
RF Engineering IIIB	RFEB301	7	12	R4410.00

Renewable Energy IIIB	RENE301	7	12	R4420.00
Digital Image Processing IIIB	DSPB301	7	8	R3030.00
Electronic Design Project IIIB	EDPB301	7	12	R5990.00
Engineering Ethics and Professional Skills IIIB	PRIM101	7	8	R3030.00
TOTAL CREDITS SEMESTER 5&6			**132**	
TOTAL				**R25290.00**

NB: The course structure and requisite modules are subject to alteration.



Application

Applicants who wish to enrol for the programme must apply through the CAO system by no later than 30 September of the previous year.

Application Forms

Contact the **Central Applications Office** (CAO)
Address letters to:
Central Applications Office Private Bag X06
Dalbridge,
4014
Tel: (031) 2684444
Fax: (031) 2684422

OR
Apply Online: http://www.cao.za

CAO Code: DU-D-BGL
Closing date for applications: 30 September 2023

For Further Information

Contact the Department of Electronic Engineering
Steve Biko Campus (S8 Level 3)
Durban University of Technology
P O Box 1334
DURBAN,
4000
Tel: (031) 3732932
Fax: (031) 3732744
Email: premi@dut.ac.za

Financial Aid

For Financial Aid application for a DUT programme please apply online at www.nsfas.org.za or call the NSFAS call centre on 0860 067 327.

For an explanation on how to fill out the application form, please go towww.nsfas.org.za or contact the call centre on the number above.

Please note that completing a form does not guarantee Financial Aid. For further assistance, please consult the Department of Financial Aid and Scholarships on (031)373 2931/2557/2054.

This is for information purposes only and is not binding on the Durban University of Technology