



BACHELOR OF ENGINEERING TECHNOLOGY IN INDUSTRIAL ENGINEERING



FACULTY OF
ENGINEERING
& THE BUILT
ENVIRONMENT

DEPARTMENT OF
INDUSTRIAL
ENGINEERING

01 JAN - 31 DEC 2024

Bachelor of Engineering Technology in Industrial Engineering (Industrial Engineering)

NQF Level: 7

SAQA ID: 99639

Qualification Code: BNIND I

Location: Steve Biko Campus (S4 Level 0)

Description of the Programme

The purpose of the Bachelor of Engineering Technology in Industrial Engineering (BEng Tech Industrial Engineering) is to equip the students with the necessary knowledge, understanding, skills and abilities in the field of industrial engineering. Graduates from this program would be able to register with the Engineering Council of South Africa as a candidate engineering technologist. The duration of this programme is 3 years full time study. The programme will also prepare students for further study at the post-graduate levels.

Why Industrial Engineering?

Industrial engineering is a discipline within the field of engineering that is focused on determining the most effective ways for an organization to use the basic factors of production namely people, machines, materials, information, and energy to make or to process a product. Industrial Engineering, perhaps more than any other engineering discipline, is focused on the human and organizational aspects when developing or analysing a system.

Who is an Industrial Engineering Technologist?

Industrial engineering technologists plan, design, implement and manage integrated systems that assure performance, reliability, maintainability and cost feasibility.

They are people who are able to draw upon the specialized knowledge and skills from various areas within the engineering, management, sciences and commerce domains in order to find optimal solutions to practical problems.

Career Opportunities

Industrial engineering technologists are employed over a vast array of industries operating within various sectors of the economy. Examples of such include: the manufacturing sector, retail sector, banking sector etc. Industrial engineering technologists add value to any organization that they join and as such are much sought after.

Personal Qualities Required

The individual must be:

- Self-motivated, structured and organized.
- A critical thinker with active listening skills and a good verbal communicator.
- Able to function well within a team environment i.e. being a team member or being a team leader
- Able to understand and solve complex problems.
- Responsible and accountable.

Entry Requirements

School leaving or TVET applicants who wish to enrol for the programme must apply through the CAO system by no later than 30 November 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.

Explanation of Points scale:

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 (Industrial 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%
THREE Additional 20 credits NSC Subject	4				Life Orientation	60%
					In addition, two others vocational subjects at a minimum of 70%.	

- NB:**
1. NSC Mathematical Literacy will not be accepted as a substitute for the subject NSC Mathematics
 2. The exit certificate of the candidate must qualify the candidate for degree study at an institution of higher learning.
 3. 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%.
 4. 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.

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:
- Mechanotechnics
- Engineering Drawing
- Electrotechnics

The above subjects must be passed with a minimum of 50% and all in the same sitting.

OR

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

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.

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.

PLEASE NOTE: Subjects, Subject placement and Subject Codes may change arising from operational requirements. Kindly refer to the current departmental handbook for further information.

First Year Curriculum

Name of Module	Subject Code	HEQSF Level	SAQA Credits	2023 Fees
Semester One				
Engineering Mathematics IA	EMTA101	5	12	R4400.00
Engineering Physics IA	EPHA101	5	12	R4400.00
Statistics I	STST101	6	12	R3840.00
Industrial Drawing and CAD	ICAD101	6	16	R5990.00
Cornerstone I01	CSTN101	5	12	R3580.00
Technical Literacy	TLTY101	6	8	R3030.00
TOTAL				R25240.00
Semester Two				
Engineering Mathematics IB	EMTB101	5	12	R4400.00
Engineering Physics IB	EPHB101	5	12	R4400.00
Financial Accounting for Engineers	FAEN101	6	8	R3030.00
Sociology of Work I	SCWK101	6	8	R3030.00
Computing and IT	CMIN101	6	8	R3030.00
Electrical Principles I	ELEP101	5	12	R4410.00
TOTAL CREDITS SEMESTER 1&2			132	
TOTAL				R22300.00
Second Year Curriculum				
Semester Three				
Engineering Mathematics IIA	EMTA201	6	12	R4400.00
Strengths of Materials I	STMT102	5	12	R4410.00
Mechanics of Machines I	MCHM102	6	12	R4410.00
Computer Programming and IT	CPRI101	6	8	R3030.00
Management Accounting for Engineers	MACE101	6	8	R3030.00
Industrial Design I	IDES101	5	16	R5990.00
TOTAL				R25270.00
Semester Four				
Engineering Mathematics IIB	EMTB201	6	12	R4400.00
Engineering Work Systems I	EWSY101	5	12	R4410.00
Production Engineering I	PENG101 I	5	12	R4410.00
Information System Design	ISYD101	7	16	R5990.00
Manufacturing Engineering I	MNFE101	7	8	R3030.00
Industrial Design II	IDES201	6	12	R4410.00
Principles of Management	PMGM102	6	8	R3030.00
TOTAL CREDITS SEMESTER 3&4			148	
TOTAL				R29680.00
Third Year Curriculum				
Semester Five				
Facilities Planning	FCLP101	7	12	R4410.00
Engineering Work Systems II	EWSY201	6	12	R4410.00
Production Engineering II	PENG201	6	12	R4410.00
Operations Research	OPRS101	7	12	R4410.00
Project Management	PMANI02	6	8	R3030.00

Design Project Part I	DPJT111	7	12	R4410.00
TOTAL				R25080.00
Semester Six				
Engineering Work Systems III	EWSY301	7	16	R5990.00
Production Engineering III	PENG301	7	16	R5990.00
Simulation Modelling	SMMD101	7	16	R5990.00
Quality Engineering	QLTE101	7	12	R4410.00
Design Project Part II	DPJT121	7	12	R4410.00
TOTAL CREDITS SEMESTER 5&6			148	
TOTAL				R26790.00

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-BIE

Closing date for applications: 30 September 2023

For Further Information:

Contact the Department of Department of Industrial Engineering
Steve Biko Campus (S4 Level 0)
Durban University of Technology
P O Box 1334
DURBAN, 4000
Tel: (031) 3732445

Email: industrialadmin@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 to www.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