





2021 HANDBOOK

FACULTY of APPLIED SCIENCES

DEPARTMENT of PHYSICS

IMPORTANT NOTICES

- Your registration is in accordance with all current rules of the Institution. If, for whatever reason, you do not register consecutively for every year/semester of your programme, your existing registration contract with the Institution will cease. Your re-registration anytime thereafter will be at the discretion of the institution and, if permitted, will be in accordance with the rules applicable at that time.
- The rules in this departmental handbook must be read in conjunction with the General Rules (G Rules) contained in the DUT General Handbook for Students as well as the relevant Study Guides.
- With respect to an appeal, your attention is specifically drawn to Rules GI(8) and (9), and to the process of dealing with students' issues.

STRATEGIC DIRECTION

FACULTY OF APPLIED SCIENCES

[Educate. Innovate. Engage]

VISION

Leading innovation through science and technology

MISSION STATEMENT

Educate students Generate new scientific knowledge Engage communities

VALUES

- I. **Accountability:** We take ownership of all activities, resources and tasks required of us. We deliver on our promises and responsibilities.
- 2. **Integrity:** We adhere to moral standards and principles. We are transparent and consistent in all our actions, and lead by example.
- 3. **Dedication:** We are committed to achieving our goals and expectations.
- **4. Professionalism:** We operate within clear boundaries with respect to our code of conduct.
- 5. **People Oriented:** We are committed to sustaining the morale and holistic development of staff and student. We value diversity in all forms.

DEPARTMENT OF PHYSICS

VISION

Promoting the advancement of physics

MISSION STATEMENT

Unlocking the relevance of physics in a technologically developing society through -



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I. DEPARTMENTAL & FACULTY CONTACT DETAILS

All Departmental queries to:

Secretary:	Ms S Chetty
Tel No:	(031) 373 5361
Tel No:	(031) 373 5264
Location of Department:	ML Sultan Campus, A-Block, 2nd Floor,
	Room AA0206

All Faculty queries to:

Faculty Officer: General Enquiries No: Facsimile No: Email: Location: Ms G Shackleford 031 373 2506 031 373 2175 fas@dut.ac.za Block S4 Level 3, Steve Biko Campus

Faculty Assistant: General Enquiries No: Facsimile No: Email: Location: Mr S Masuku 031 373 3036 031 373 2175 spha@dut.ac.za Block S4 Level 3, Steve Biko Campus

Executive Dean:

Executive Dean's Secretary:Mrs NK NaidooTelephone No:031 373 2720Facsimile No:031 373 2724Email:fas@dut.ac.zaLocation:Between Block S

Prof S Singh Mrs NK Naidoo 031 373 2720 031 373 2724 fas@dut.ac.za Between Block S6 and S7, Level 4 Steve Biko Campus

2. DEPARTMENTAL STAFF

Head of Department	Dr. S Moolla, BSc (UDW), BSc (Hons) (UDW), MSc (UDW), PhD (UKZN)
Associate Professors	Prof. I J Lazarus, BSc (UDW), BSc (Hons) (UCT), MSc (UDW), PhD (UKZN)
Associate Director	Mr. D Gxawu, BSc (Hons), MSc (UDW)
Senior Lecturers	Mr. D Singh, BSc (Hons) (UDW), MSc (NIU, USA)
	Dr. K Reddy, BSc (UDW), BSc (Hons) (UDW), MSc (UND), PhD (UKZN)
Lecturers	Mr. R Haripersad, BSc (Unisa), MTech (DUT)
	Mr. NA Kgasi, BSc, BSc (Hons) (UKZN), MSc (Dunelm)
	Mr. V Masondo, BSc (Wits); BSc (Hons) (UWC), MSc (UWC)
	Ms. M Gumede, BSc (UKZN), BSc (Hons) (UKZN), MSc (UKZN)
Laboratory Technicians	Dr. S. Dlamini, BSc (UKZN), BSc (Hons) (UKZN), MSc (UKZN), PhD (UKZN)
	Mr. J. Sehume, BSc (UFS), Post Graduate Diploma in Higher Education (VUT)
Secretary	Ms. S Chetty, BTech (DUT)

3. QUALIFICATIONS OFFERED BY THE DEPARTMENT

Programmes are offered in this Department, which will, upon successful completion, lead to the award of the following qualifications:

Doctor of Applied Sciences (DAppSc)

	Oualification	Important Dates		SAQA	
Qualification	Code	Ist Offered	Phased Out *	NLRD ID	
Doctor of Applied Sciences	DRASCI	Jan 2018		101 690	

4. DOCTOR OF APPLIED SCIENCES

Purpose of Qualification

The Doctor of Philosophy in Applied Sciences Degree aims to promote the career advancement of students in the field of applied sciences by enabling students to conduct independent, novel research within a specific discipline or in an interdisciplinary manner in applied sciences programmes offered within the Faculty of Applied Sciences and Faculty of Engineering. The Doctor of Philosophy in Applied Sciences degree prepares graduates for advanced level positions in the field, as well as the opportunity to grow in expert and advisory positions in future. Interdisciplinary research provides the means to solve problems and answer questions that may not be satisfied using a single method or approach within a single discipline. Interdisciplinary research is transformative as it synthesizes disciplinary knowledge in order to produce original and creative ideas. It builds meta-knowledge, which is original in nature and emanates from bodies of knowledge underpinning different disciplines.

This qualification is offered by means of a full research project.

Code	Subject Offering	Year of Study	Compulsory /Elective	Assessment Method	SAQA Credits	NQF Level
RTHS 611	Research Thesis (I st Registration)	I	С	Full Research Thesis		
RTHS 621	Research Thesis (2 nd Registration)	2	С	Full Research Thesis		
RTHS 631	Research Thesis (3 nd Registration)	3	С	Full Research Thesis	360	10
RTHS 641	Research Thesis (4 th Registration)	4	С	Full Research Thesis		
RTHS 651	Research Thesis (5 th Registration)	5	С	Full Research Thesis		

4.1 PROGRAMME STRUCTURE (2 YEAR)

4.2 PROGRAMME INFORMATION

4.2.1 Academic Integrity

Refer to the DUT General Rules pertaining to academic integrity GI3(1)(o) – covering falsification of academic records, plagiarism and cheating. These will

be enforced wherever necessary to safeguard the worthiness of our qualifications, and the integrity of the Faculty of Applied Sciences at DUT.

4.2.2 Code of Conduct for Students

A professional code of conduct shall apply to all students registered with the Faculty of Applied Sciences. Refer to Programme Rule 4.3.8 below.

4.2.3 Attendance

Students are expected to attend all planned research activities as these are designed to provide optimal support for the required competency

4.2.4 Assessment and Moderation

Students are expected to work steadily through the period of registration in order to achieve the highest results possible. All modules in this programme are assessed using 100% full research. The final examination of the thesis constitutes the full examination.

4.2.5 Employment Opportunities There are job opportunities in the scientific and other related industries.

4.2.6 Registration Periods

In accordance with the DUT Rules G25(2)(c) and G26, students are required to register each year in January.

4.3 **PROGRAMME RULES**

4.3.1 Minimum Admission Requirements

In addition to DUT Rule G7 and G25(1), the following minimum entrance requirements will apply for applicants with reference to:-

4.3.1.1 Academic Achievement

An applicant must be in possession of a relevant master's degree (from a broad spectrum of science and engineering) with a minimum of 180 credits at level 9 or equivalent. Applicants with a Master of Technology will be required to make application for entry into the programme via Conferment of Status.

4.3.1.2 Admission of International Applicants

The DUT's Admissions Policy for International Students and DUT Rules G4 and G7(5) will apply. International applicants must meet the equivalent of programme minimum entrance requirements as stated above.

4.3.1.3 Admission of Applicants from other Institutions

In addition to the relevant DUT Rules, a transferring applicant will only be accepted if there are places available and the student has met the applicable entrance requirements of the university.

4.3.2 Selection Criteria

In addition to the Minimum Admission Requirements (Rule 4.3.1), the following selection process will determine acceptance into the programme:

- All applicants must apply through the Department of Physics.
- Selection will be based on the applicants who meet the minimum admission requirements as well as available places (refer to DUT Rule G5).

4.3.3 Duration of Programme

In accordance with DUT Rule G25(2), the minimum duration for this programme will be 2 consecutive years of registered study and the maximum duration will be 4 years of registered study.

4.3.4 Interruption of Studies

In addition to DUT Rule G25(2), should a student interrupt their studies by more than three (3) years, the student will need to apply to the department for permission to reregister and will need to prove currency of appropriate knowledge prior to being given permission to continue with registration.

4.3.5 Secret Projects

The DUT Rule G27 applies.

4.3.6 Code of Conduct

In addition to the Student Code of Conduct in the DUT General Handbook for Students, and the relevant requirements as stated in the appropriate Study Guides, the following rules apply:

4.3.6.1 Laboratory Code of Conduct

Strict adherence to related instructions issued by staff, whether academic or technical is required. Misconduct or disregard for instructions will result in disciplinary measures.

4.3.7 Health and Safety

Students must adhere to all Health and Safety regulations both while at DUT and in WIL placements. Failure to do so will be treated as a breach of discipline. Refer to the appropriate Health and Safety policies.

5. SERVICED SUBJECTS

The servicing departments rules apply to all serviced subjects. The following subjects are serviced from this department.

FIRST SEMESTER

Serviced Programme	Serviced Programme Code	Subject Name	Subject Code
BH: Emergency Medical Care	BHEMC3	Physics	PHIS101
BH: Homoeopathy	BHHOMI	Physics I: Module I	PHHCIII
BH: Homeopathy (5 Years)	BHHMFI	Physics I: Module I	PHHCIII
BH: Environmental Health	BHEVHI	Physics I: Module I	PYSIIII
BH in Medical Laboratory Science	BHMLSI	Physics: Module I	PHISTIT
BHSC in Clinical Technology	BACHRI	Physics 101	PHYSIII
BHSC in Clinical Technology	BHCLTI	Physics: Module I	PHISTIT
BH: Medical Orthotics and Prosthetics	BHMOPI	Physics	PSIC101
Diploma in Nautical Studies	DINAUI	Marine Science I	MRSN101
ND: Chiropractic	NDCHRI	Physics I	PHHC101
ND: Chiropractic (4 Years)	NDCHFI	Physics I	PHHC101
Diploma in Analytical Chemistry	DIACHI	Physics I	PHIC101
ND: Food Technology	NDFDT2	Physics I	PHYS103
ND: Food Technology (4 Years)	NDFTFI	Physics I	PHYS103
BS: Food Science and Technology	BSFSTI	Physics	PHYS104
BS: Biotechnology	BSBTCI	Physics	PHYS104
Diploma in Textile Technology (4 Years)	DITXFI	Physics IA	PHCA101
Diploma in Textile Technology (4 Years)	DITXFI	Physics IB	PHCA101
Diploma in Textile Technology	DITXTI	Physics I	PYSC101
ND: Pulp and Paper Technology	NDPPT2	Physics I	PYSC105
ND: Pulp and Paper Technology	NDPPT2	Engineering Physics II	EPHY201
B Engineering Technology in	BNINDI	Engineering Physics IA	EPHA101
Industrial Engineering			
B Engineering Technology in	BNELCI	Engineering Physics IA	EPHA101
Electronic Engineering			
B Engineering Technology in	BNPWEI	Engineering Physics IA	EPHA101
Power Engineering			
Civil Engineering and Geomatics	BBGMTI	Engineering Physics IA	EPHA101
B Engineering Technology in	BNMCHI	Engineering Physics IA	EPHA101
Mechanical Engineering			

Civil Engineering and Geomatics	BBGMTI	Engineering Physics IA	EPHA101
B Engineering Technology in Chemical Engineering	BNCMEI	Engineering Physics IA	EPHA101
B Engineering Technology in Civil Engineering	BNCVLI	Engineering Physics 1A	EPHA101
Bachelor of BE in Construction Studies	BBCSTI	Physics for the Built Environment IA	PHBA101
Bachelor of BE in Construction Studies	BBARCHI	Physics for the Built Environment IB	PHBA101

SECOND SEMESTER

Serviced Programme	Serviced Programme Code	Subject Name	Subject Code
Diploma in Nautical Studies	DINAUI	Marine Science II	MRSN201
ND: Dental Technology	NDDNTI	Physics and Chemistry I (Physics)	PHCDIII
BH: Homoeopathy	BHHOMI	Physics 1: Module 2	PHHC121
BH: Homeopathy (5 years)	BHHMF2	Physics I: Module 2	PHHC121
BH: Environmental Health	BHEVHI	Physics 1: Module 2	PYSI121
BHSC in Chiroprac	BACHRI	Physics 201	PHYS121
BH in Medical Laboratory Science	BHMLSI	Physics: Module 2	PHIS121
BHSC in Clinical Technology	BHCLTI	Physics: Module 2	PHIS121
BHSC in Diagnostic Radiography	BHDRDI	Physics	PHIS101
BHSC in Diagnostic Sonography	BHDSNI	Physics	PHIS101
BHSC in Nuclear Medicine	BHNMDI	Physics	PHISIOI
BHSC in Radiotherapy	BHRDTI	Physics	PHIS101
Diploma in Eng Tech in Civil Eng	DICVEI	Physics A	PSCAIOI
Diploma in Eng Tech in Civil Eng	DICVEI	Physics B	PSCB101
Diploma in Eng Tech in Civil Eng	DICVEI	Physics C	PSCC101
ND: Pulp and Paper Technology	NDPPT2	Engineering Physics II	EPHY201
B Engineering Technology in	BNCMEI	Engineering Physics IB	EPHB101
Chemical Engineering			
B Engineering Technology in Civil	BNCVLI	Engineering Physics IB	EPHB101
Engineering			
B Engineering Technology in	BNPWEI	Engineering Physics IB	EPHB101

Power Engineering			
B Engineering Technology in	BNELCI	Engineering Physics IB	EPHB101
B Engineering Technology in	BNINDI	Engineering Physics IB	EPHB101
Industrial Engineering			
B Engineering Technology in	BNMCHI	Engineering Physics IB	EPHB101
Mechanical Engineering			
Civil Engineering and Geomatics	BBGMTI	Engineering Physics IB	EPHB101
Bachelor of BE in Construction Studies	BBARCHI	Physics for the Built	PHBB101
		Environment IB	
Bachelor of BE in Construction Studies	BBCSTI	Physics for the Built	PHBB101
		Environment IB	