



# 2017 HANDBOOK DENTAL SCIENCES



# **HANDBOOK FOR 2017**

## **FACULTY OF HEALTH SCIENCES**

### **DEPARTMENT of DENTAL SCIENCES**

**The above department offers two programmes:**

#### **DENTAL TECHNOLOGY DENTAL ASSISTING**

**This handbook offers information on both programmes**

## **WHAT IS A UNIVERSITY OF TECHNOLOGY?**

A university of technology is characterized by being research informed rather than research driven where the focus is on strategic and applied research that can be translated into professional practice. Furthermore, research output is commercialized thus providing a source of income for the institution. Learning programmes, in which the emphasis on technological capability is as important as cognitive skills, are developed around graduate profiles as defined by industry and the professions.

## **IMPORTANT NOTICES**

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 subject Study Guides.

Your attention is specifically drawn to Rule GI (8), and to the process of dealing with students' issues.

## **NOTE TO ALL REGISTERED STUDENTS**

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.

# **FACULTY of HEALTH SCIENCES**

## **FACULTY VISION, MISSION, GOALS & VALUES**

(November 2012 for 2013-2017)

**Vision:** The vision of the Faculty of Health Sciences at the Durban University of Technology is to be a leading Faculty in transformative and innovative education for health professionals, guided by National imperatives and a strong commitment to socially responsive education. We will strive to excellence in professional and teaching scholarship, as well as in the development of National and global linkages in education, and in the research and development of health.

**Mission Statement:** Within a value-driven centered ethos, the Faculty is committed to develop, quality health professionals that are practice oriented; receptive and responsive to health care needs of the people of South Africa and Africa as a whole. This will be achieved by providing the highest standards of learning, teaching, research, and community engagement, underpinned by a commitment to creating space for students and staff to succeed.

### **Goals**

The Faculty aims to:

1. Respond to the National health human resource and industry needs within the health sector.
2. Ensure the offering of entrepreneurial and leadership skills as a core component of all programmes within the Faculty of Health Sciences.
3. Continue to develop community-based projects to foster social responsibility through collaborative projects between programmes.
4. Enhance established quality management frameworks to support teaching and learning.
5. Develop applied research responsive to community and industry needs.
6. Develop mechanisms for the dissemination and application of research outcomes to inform teaching and learning, assessment, community engagement and further research.
7. Improve research participation and output through increased post-graduate student enrolment, publications and establishment of research groups.
8. Enable the generation of third-stream income through research and innovation (patents / artifacts) in order to supplement existing sources of income for the next five years.
9. Attract and retain diverse quality staff, while promoting advancement of individual potential.
10. Position DUT Health Sciences nationally.

## **Values**

The Faculty is guided by the following core values:

- o Transparency, openness, honesty, and shared governance
- o Professional and personal respect for others
- o Educational relevance, equity and transformation (curriculum, access and success)
- o Loyalty, accountability, dignity and trust

## **DEPARTMENTAL MISSION & GOALS**

### **Department of Dental Sciences mission:**

The Department of Dental Sciences will constantly strive to:-

- o Provide the best Dental Technology and Dental Assisting educational training on the African continent.
- o Be an educational leader in our fields.
- o Provide holistic education in preparing students practically for the working environment.
- o Enhance the development of Dental Technology and Dental Assisting as a profession in South Africa.
- o Develop our research base so as to be the leading Dental Technology and Dental Assisting research institution in Africa.
- o Develop community outreach programmes that serve the indigent population of Africa.

### **Department goals:**

1. Providing our students with the highest level of tertiary education in the teaching of our disciplines.
2. Promoting research, initiating, supporting and undertaking research in the Dental field.
3. Providing community service to the indigent population especially in specialized fields where this service is not available to the communities.
4. Striving towards excellence in all our activities.
5. Maintaining the highest ethical standards in our relationships with our students as well as the dental community at large.
6. Promoting the spirit of free enterprise and initiative.
7. Working actively with the local Dental industry in KwaZulu-Natal.
8. Employing Dental Technology lecturing staff with high academic qualifications.
9. Providing teaching laboratories of the highest standards in Africa.

# CONTENTS

	Page
<b>1. DEPARTMENTAL &amp; FACULTY CONTACT DETAILS</b>	<b>1</b>
<b>2. STAFFING</b>	<b>2</b>
<b>3. DEPARTMENTAL INFORMATION &amp; RULES</b>	<b>3</b>
3.1. Programmes offered by the department	3
3.2. Qualifications offered by the department	3
3.3. Departmental Information	3
3.4. Departmental Rules	4
<b>SECTION A: DENTAL TECHNOLOGY</b>	
<b>4 NATIONAL DIPLOMA: Dental Technology</b>	<b>7</b>
4.1 Programme Information	7
4.2 Learning Programme Structure	7
4.3 Programme Rules	8
4.3.1 Minimum Admission Requirements	8
4.3.2 Selection Processes	8
4.3.3 Pass Requirements	9
4.3.4 First Aid Certificate	13
4.3.5 Re-registration Rules	13
4.3.6 Exclusion Rules	13
4.3.7 Interruption of Studies	13
4.3.8 Workplace based learning	14
4.3.9 Materials	14
4.3.10 Vaccinations	14
4.4 Subject Content	15
<b>5 B TECH: Dental Technology</b>	<b>20</b>
5.1 Programme Information	20
5.2 Learning Programme Structure	21
5.3 Programme Rules	21
5.3.1 Entrance Requirements	21
5.3.2 Selection Criteria	21
5.3.3 Pass Requirements	22
5.4 Subject Content	24
<b>7 MASTER OF HEALTH SCIENCES: DENTAL TECHNOLOGY</b>	<b>25</b>
7.1 Programme Information	25
7.2 Programme rules	26
<b>8 DOCTOR OF TECHNOLOGY: DENTAL TECHNOLOGY</b>	<b>26</b>
8.1 Programme Information	26
8.2 Programme rules	27

## **SECTION B: DENTAL ASSISTING**

<b>9 HIGHER CERTIFICATE: Dental Assisting</b>	<b>27</b>
9.1 Programme Information	27
9.2 Learning Programme Structure	27
9.3 Programme Rules	28
9.3.1 Minimum Admission Requirements	28
9.3.2 Selection Criteria	28
9.3.3 Pass Requirements	28
9.3.4 Uniform	29
9.3.5 First Aid Certificate	29
9.3.6 Hepatitis B	29
9.3.7 Duration of programme	30
9.3.8 Exclusion Rules	30
9.3.9 Interruption of Studies	30
9.4 Subject Content	30

<b>10 HIGHER CERTIFICATE: Dental Assisting (Part Time)</b>	<b>32</b>
10.1 Programme Information	32
10.2 Learning Programme Structure	32
10.3 Programme Rules	33
10.3.1 Minimum Admission Requirements	33
10.3.2 Selection Procedure	34
10.3.3 First Aid Certificate	34
10.3.4 Duration of the programme	34
10.3.5 Exclusion Rules	34
10.3.6 Interruption of Studies	34
10.4 Subject Content:	34

## **I. DEPARTMENTAL & FACULTY CONTACT DETAILS**

### **All departmental queries to:**

Secretary:	Ms Rani Sukhu
Tel No:	(031)-3732044
Fax No:	(031)-3732047
Email:	sukhui@dut.ac.za
Location of Department	Gate 8, Steve Biko Rd, Ritson Campus, Mansfield School

Secretary: (Dental Assisting)	Ms Perusha Naidoo
Tel No:	(031)-3735356
Fax No:	(031)-3736401
Email:	perushan@dut.ac.za
Location of Department	Gate 8, Steve Biko Rd, Ritson Campus, Mansfield School

### **All Faculty queries to:**

Faculty officer:	Mr Vikesh Singh
Tel No:	(031)-3732701
Fax No:	(031)-3732407
Email:	vikeshs@dut.ac.za
Location:	Health Sciences Faculty Office, Gate 8, Steve Biko Road, Mansfield Site Area, Ritson Campus

Executive Dean:	Professor T Puckree
Executive Dean's Secretary:	Mrs Bilkish Khan
Tel No:	(031)-3732704
Fax No:	(031)-3732620
Email:	bilkishk@dut.ac.za
Location:	Executive Dean's Office, 8, Steve Biko Road, Mansfield Site Area, Ritson Campus



## 2. STAFFING

### Head of Programmes

Mr K Padayachee (Acting)  
Dr V Gareeb, BDS (MEDUNSA) (Acting)

### Senior Lecturer:

Dr A Vahed, DTech: Quality (DUT), Reg Dental Tech

### Lecturers

Ms D A Skea, MTech: Dental Tech (DUT) Reg Dental Tech  
Ms M M P Zondi, MTech: Dent Tech (DUT), Reg Dental Tech  
Mr MJ Radebe, MBA (MANCOSA)

### Specialist Instructors

Mrs Y Ngombane, BTech: Dental Tech (DUT), Reg Dental Tech  
Mr T Gumbi, BTech: Dental Tech (DUT), Reg Dental Tech  
Ms P Rattan, BTech: Dental Tech (TN), Reg Dental Tech

### Technician

Ms DP Lubisi, B Tech Dental Tech (DUT), Reg Dental Tech

### Secretary Dental Sciences

Ms R Sukhu, B Tech Commercial Administration (ML)

**Admin Assistant Dental Assisting** Ms P Naidoo

**Technical Assistant** Mr M P Phewa

**Admin Assistant** Mr M Ndebele

### 3. DEPARTMENTAL INFORMATION & RULES

#### 3.1. Programmes offered by the department

This department offers two programmes, namely

- Dental Technology
- Dental Assisting

#### 3.2. Qualifications offered by the department

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

Qualification	Qual Code	SAQA NLRD Number	Important Dates
ND: Dental Technology	NDDNTI	72222	Teach Out 2019
ND: ECP: Dental Technology	NDDTFI	72222	Teach Out 2019
BTech: Dental Technology	BTDNTI	72124	Teach Out 2019
MHSc: Dental Technology	MHDNTI	72095	
DTech: Dental Technology	DTDNTI		
Qualification	Qual Code	SAQA NLRD Number	
NHC: Dental Assisting	NCDNAI	72207	

#### 3.3. Departmental information

##### 3.3.1. Academic Integrity

Please refer to the General Rules pertaining to academic integrity G13 (1)(o). These will be enforced wherever necessary to safeguard the worthiness of our qualifications, and the integrity of the Faculty of Health Sciences at the DUT.

##### 3.3.2. Code of Conduct for students

In addition to the General Rules pertaining to Conduct SR3 (3), a professional code of conduct pertaining to behavior, appearance, personal hygiene and dress shall apply to all students registered with the Faculty of Health Sciences, at all times.

##### 3.3.3. Uniforms

Students must adhere to instructions regarding specific uniforms required during practical's and clinic sessions.

##### 3.3.4. Attendance

Students are encouraged to achieve hundred percent (100%) attendance for all planned academic activities as these are designed to provide optimal support for the required competency. Where absence is unavoidable, the student must timeously advise the department of the reason. Only exceptional reasons will be accepted for absence from guest lectures, industry or field trips. Poor attendance records may lead to penalties.

### **3.3.5. Health and Safety**

Students must adhere to all Health and Safety regulations both while at DUT and in WVPBL (Workplace Based Learning) placements. Failure to do so will be treated as a breach of discipline.

### **3.4. Departmental Rules**

#### **3.4.1. Registration**

The final date for late registration for the Dental Technology and Dental Assisting Programme will be fifteen (15) working days after the official commencement of lectures.

#### **3.4.2. Discipline**

Rules of conduct pertaining to a specific laboratory as instituted by the Head of this Department shall apply to all students registered for the particular subject.

- **Material Wastage**

Students found to be wasting materials will be disciplined in terms of completing several hours of community service.

- **General Disciplinary Issues**

The Head of Department shall have the right to constitute an internal disciplinary tribunal should he/she deem this necessary. The authority of the internal disciplinary tribunal shall be limited to cleaning duties or community work.

- **Equipment**

**Equipment Damage:** students found to have willfully damaged any equipment will be charged the full amount of the repair / replacement.

**Issued Equipment:** students will be allocated departmental equipment for the duration of the year. It is the student's responsibility to take care of the said equipment. Any equipment, lost, stolen or damaged will be to the account of the student to whom the equipment was issued.

**Please note: the department supplies lockers for the safe-guarding of equipment.**

- **Laboratory and/or Clinic Cleaning**

Students are required to clean laboratories and/or clinics at the end of the teaching day as well as to be present at general cleaning every Wednesday Afternoon (Dental Assisting) and every Thursday afternoon (Dental Technology). Failure to be present will result in the student cleaning his/her laboratory or all the laboratories/clinic (up to one week) of the department of Dental Sciences or community work. Students transgressing this rule for a third or more time will be referred to the Registrar Academic for institutional disciplinary action. In those instances where discipline is of a serious nature or that the student concerned has been found guilty of a similar offence, the matter will be referred to the DUT's disciplinary tribunal.

### **3.4.3. Workplace Based Learning (WPBL)**

The Department of Dental Sciences requires the student to undergo a period of experiential learning as part of the programme (Dental Technology and Dental Assisting). All prescribed subjects and the prescribed experiential component must be passed in order to obtain sufficient credits to qualify for the qualification. Although the Institution undertakes to assist the student in obtaining suitable experiential learning placement, the onus is on the student to attempt to find an “employer”. The employer must be accredited by the Institution for the purposes of experiential learning.

An experiential learning agreement creates a separate contract between the “employer” and the student.

### **3.4.4. Handing in of work and assignments that are submitted late**

Assignments that are not handed in on due date and time will be penalized. Students are reminded that assignments are given well in advance and that last minute problems can be avoided by completing assignments before the due date. **See discipline-specific study guides for further details.**

### **3.4.5. Dental Clinic**

The Department of Dental Sciences operates a Dental Clinic for the training of Dental Technology and Dental Assisting students.

Dental Technology - Work generated by this clinic is handed to students to complete. Please note that the completion of this work is compulsory. The work completed by students for the clinic may be evaluated and the marks obtained by the student may be used in the determination of a student's year mark.

Dental Assisting - Students are expected to assist the clinician with all procedures.

### **3.4.6. Special Tests and Condonement**

Summative means all assessment marks that contribute to the final mark of a subject, but not including examinations for the purpose of this rule.

If a student misses a summative written, oral or practical test, **for reasons of illness**, a special test may be granted if the student provides a valid medical certificate specifying the nature and duration of the illness, and a declaration that for health reasons it was impossible for the student to sit for the test. This certificate must be submitted to the subject lecturer, no later than one week after the date of the missed test.

Any student who misses an assessment test, and any student who qualifies for a rewrite but fails to write it, will be scored a zero mark for the missed assessment.

### **3.4.7. Registration with the Professional Board: Dental Technology Students**

In addition to the requirements of the General Rules (see Rule G3) a student who registers for the National Diploma in Dental Technology or Bachelor of

Health Sciences in Dental Sciences shall be registered as a Student Dental Technician and must conform to the requirements as laid down by the South African Dental Technicians Council in the Dental Technicians Act, 1979.

A graduate, on successful completion of the National Diploma in Dental Technology, and who has satisfied the requirements of the South African Dental Technicians Council shall be recognized by the South African Dental Technicians Council as qualified for registration as a dental technician. The said qualification shall entitle the holder thereof to practice a profession as a Dental Technician, however only in the capacity of employee.

A graduate, on successful completion of the BTech Degree in Dental Technology, and who has satisfied the requirements of the South African Dental Technicians Council shall be recognized by the South African Dental Technicians Council as qualified for registration as a Dental Technologist. The said qualification shall entitle the holder thereof to practice a profession as a Dental Technologist, in the capacity of employer.

No student who is in fee default with the Institution will be registered with the South African Dental Technicians Council until such time as his/her fees are paid up in full.

#### **3.4.8. Registration with the Professional Board: Dental Assisting Students**

In addition to the requirements of the General Rules (see Rule G3) a student who registers for the National Certificate in Dental Assisting shall be registered as a Student Dental Assistant and must conform to the requirements as laid down by the Health Professionals Council of South Africa.

A graduate, on successful completion of the National Certificate in Dental Assisting, and who has satisfied the requirements of the Health Professionals Council of South Africa shall be recognized by the Health Professionals Council of South Africa as qualified for registration as a Dental Assistant.

No student who is in fee default with the Institution will be registered with the Health Professionals Council of South Africa until such time as his/her fees are paid up in full.

#### **3.4.9 Appeals**

Rule G1 (8) refers:

Any student wishing to appeal against:

- (a) The implementation of an Institutional Rule must do so in the first instance to the relevant Head of Department;
- (b) The decision of a Head of Department must do so via the relevant Executive Dean to the Faculty Board or a delegated Committee of the Faculty Board. The decision of the Faculty Board or a delegated Committee of the Faculty Board is final and no further appeals will be considered thereafter.

(Amended w.e.f. 2009/01)

## 4. NATIONAL DIPLOMA: DENTAL TECHNOLOGY

### 4.1 Programme information

A diploma in Dental Technology enables a qualified dental technician to work as a dental laboratory employee upon registration with the South African Dental Technicians Council (SADTC). A final practical assessment is conducted, in the concluding year of the programme, which, if completed successfully, enables the qualified student to register with the SADTC. Certain subjects in this programme do not have a final examination. The results for these subjects are determined through a weighted combination of assessments. As such, there are no supplementary examinations. Students are encouraged to work steadily through the period of registration in order to achieve the highest results possible. Assessment details are listed under each subject at the back of this handbook. Moderation follows the DUT requirements.

### 4.2 Learning Programme Structure

#### National Diploma: Dental Technology

Code	Subjects	Year of Study	CA/E*	Credits	Pre-requisite	Co-req
OANA101	Oral Anatomy I	I	CA	0.080	Admission requirements	
TMOR101	Tooth Morphology I	I	CA	0.080		
DMSC102	Dental Materials Science I	I	CA	0.350		
DTTH101	Dental Technology Theory I	I	CA	0.240		
APDT101	Applied Dental Technology I	I	CA	0.170		
PHCD111	Physics & Chemistry I (Mod 1) (Physics)	I	E	0.100		
PHCD121	Physics & Chemistry I (Mod 2) (Chemistry)	I	E	0.100		
DMSC211	Dental Materials Science II (Module 1)	2	E	0.200	Dental Materials Science I	
DMSC221	Dental Materials Science II (Module 2)	2	E	0.200	Dental Materials Science II (Mod 1)	
DTTH211	Dental Technology Theory II (Mod 1) (Crown/Bridge & Orthodontics)	2	CA	0.125	Dental Technology Theory I	
DTTH221	Dental Technology Theory II (Mod 2) (Chrome & Prosthetics)	2	CA	0.125	Dental Technology Theory I	
APDT201	Applied Dental Technology II	2	CA	0.250	Tooth Morphology I Applied Dental Technology I	
JURI111	Jurisprudence I (Module 1)	2	E	0.085		
JURI121	Jurisprudence I (Module 2)	2	E	0.085	Jurisprudence I (mod 1)	
BPRD101	Business Practice I	3	CA	0.170		
DMSC301	Dental Materials Science III	3	CA	0.350	Dental Materials Science II Oral Anatomy	
DTTH311	Dental Technology Theory III (Mod 1) (Crown/Bridge & Orthodontics)	3	CA	0.140	Dental Technology Theory II (Mod 1) (Crown/Bridge & Orthodontics), Oral Anatomy	

DTTH321	Dental Technology Theory III (Mod 2) (Chrome & Prosthetics)	3	CA	0.140	Dental Technology Theory II (Mod 2) (Chrome & Prosthetics), Oral Anatomy	
APDT301	Applied Dental Technology III	3	CA	0.200	Oral Anatomy Applied Dental Technology II	
ETDN301	Experiential Learning	3	CA	0.000	Oral Anatomy I	
CMCA102	Communication I	3	CA	0.080		

\*CA = Continuous Assessment; E = Examination at end of Subject / Module

## 4.3 Programme Rules

### 4.3.1. Minimum Admission Requirements

In addition to Rule G7 the minimum entrance requirement for entry into the programme of study is a National Senior Certificate (NSC) with endorsement for degree entry with the following subjects:

Subject	NSC Rating
English (home) <b>OR</b> English (1st additional)	3
Physical Sciences <b>AND/OR</b>	3
Mathematics <b>OR</b>	3
Mathematics Literacy	6
And two 20 credit subjects (not more than one language)	3

The minimum requirement for holders of the Senior Certificate is matriculation exemption with the following subjects at the stated ratings:

Compulsory Subjects	HG	SG
Mathematics <b>OR</b> Physical Science	E	C

The latter also applies to National Certificate (Vocational) level 4 candidates.

The DUT General Rules G7 (3) will apply for admission requirements based upon Work Experience, Age and Maturity and Recognition of Prior Learning.

The DUT's Admissions Policy for International Students and General Rules G4 and G7 (5) will apply for admission of International students.

### 4.3.2. Selection Processes

In accordance with Rule G5, acceptance into the programme is limited to 28 places. As more qualifying applications are received than can be accommodated, the following selection process will determine placement in the programme:

All applicants must apply through the Central Applications Office (CAO). Initial shortlisting for selection is based on the applicant's academic performance in Grade 12 (Grade 12 June / trial marks will be used for current matriculants) together with a submission of a portfolio. Shortlisted students will then be invited to undergo placement testing. Applicants who pass the placement tests are invited for an interview. Provisional acceptance is given to

selected applicants awaiting National Senior Certificate (NSC) results. If the final Grade 12 NSC results do not meet the minimum entrance requirements, this provisional acceptance will be withdrawn. Final selection for placement will be based on results in the SC / NSC and DUT placement tests.

#### **4.3.3. Pass Requirements**

Notwithstanding the DUT pass requirements (G14 and G15), and those detailed as follows, students are encouraged to apply themselves to their learning, and strive for the best academic results possible in order to adequately prepare themselves for their future careers, and to maximize possible employment opportunities.

4.3.3.1. A student Dental Technician shall not be permitted to continue with Dental Technology II, III or IV or Dental Material Science II, III or IV or Applied Dental Technology II and III unless the student has passed the preceding level. (Consistent with Dental Technicians Act, 1979. Reg 21(2))

4.3.3.2. Tooth Morphology is a prerequisite for Applied Dental Technology II.

4.3.3.3. Oral Anatomy is a prerequisite for Applied Dental Technology III.

4.3.3.4. Continuous Evaluation Subject Rules

Please refer to 4.1 Learning Programme Structure to identify the subjects/modules which are evaluated by Continuous Assessment. Examinations will not be written in these subjects / modules. All modules will need to be passed in the same academic year. See "Subject Contents" for further information as well as your specific Study Guides, which contain specific rules for each subject. Students may not be allowed resubmissions for continuous assessment tasks unless a forty percent (40%) sub minimum mark is achieved for their first submission.

Any numbers of tasks may form the class work marks. This is solely dependent on the lecturer in charge of the different sections. Formal tests will be held during the year. These will be held as and when necessary

Students failing formative class work and assessments are encouraged to repeat exercises to improve their performance. Summative classwork and assessments will be exempt from a re-submission.

4.3.3.5. Examination Subject Rules

Please refer to 4.1 Learning Programme Structure to identify the subjects / modules which are evaluated by Examination.

A 40% year mark is required to enter the examination for each module for the above subjects.

A final pass mark of 50% is required for each module for the above subjects.

The examination for Module 1 is written during the mid-year examination period and for Module 2, during the year-end examination period.



A student failing Module 1 and Module 2 will be permitted supplementary examinations provided that the results obtained comply with the supplementary examination rules as contained in rule G13 (3).

A student must pass both modules in one academic year failing which the student will be required to re-register for both modules.

#### 4.3.3.6. Rules for Dental Technology Theory II and Dental Technology Theory III

Both subjects run for the entire year (annual)

Both subjects consist of 2 modules each containing 2 study units:

- o Module 1: Study Unit 1 —Crown and Bridge and Study Unit 2: Orthodontics;
- o Module 2: Study Unit 1 —Chrome and Study Unit 2: Prosthetics

Final marks for each study unit will be determined as follows:

<b>Assessment</b>	<b>Weighting</b>	<b>Sub minimum</b>
Test 1	15%	
Test 2	30%	40% required
Test 3	30%	40% required
Assignment/Presentation	25%	50% required

Note for each Study Unit:

- o In respect to Test 1, subminimum mark is not applicable.
- o A subminimum pass mark of 40% is required for Test 2 and Test 3.
- o Students who do not obtain the subminimum mark for either Test 2 or Test 3 will be afforded an opportunity of a retest following remedial intervention.
- o A subminimum of 50% will apply to final assignments / presentations submissions. Students may be afforded formative assessment opportunities prior to the final submission.
- o The final mark for each Study Unit comprises the marks scored for Test 1, 2, 3 & assignment/presentation with the appropriate weightings. The final pass mark for each Module is 50%.
- o Credit for Dental Technology Theory II and Dental Technology Theory III subjects will only be granted if the student passes both study units Module 1 and Module 2 in the same academic year for each subject. Therefore failure in either study units will necessitate re-registration for both study units.

#### 4.3.3.7. Rules for Practical Tests and Examinations

##### **A. Preparation procedures prior to the commencement of the test and/or examination.**

- A.1. All models, examples, teaching aids, previous work done by the students must be cleared out of the laboratory at least one day prior to the commencement of the test/examination. This is to ensure that no outside help or unfair advantage can be gained by the students. Students are to make their own arrangements as to what they should do with these articles cleared from the laboratory.

- A.2. All materials, personal tools and equipment required for the practical must be on hand and in working order.
- A.3. The invigilator must ensure that all models must be laid out or on-hand and clearly marked for the test / examination.
- B. Test and/or examination day.**
  - B.1. No students may bring any hand-bags or lunch boxes into a test or an examination. Students are to make their own arrangements as to what they should do with these articles.
  - B.2. Students enter, go to their work stations, and lay out and prepare their tools and instruments.
  - B.3. The following will be read out prior to the text/examination papers being handed out: "This is an official test/examination of the Department of Dental Sciences as constituted by the Durban University of Technology. All rules of the Institution pertaining to tests and examination apply. These rules are to be found in the Rule Book for students of the Institution and are available to students on request. Those students contravening these rules will be prosecuted in terms of the rules of the Durban University of Technology by the Institution's disciplinary tribunal." (Note to invigilator: In the case of an examination a list of instructions to be read to students will be supplied by Examinations Office and must be read out as well as B.3)
- C. The following laboratory rules & procedures will apply:**
  - C.1. No additional tools, instruments, models or equipment may be brought into the laboratory during the duration of the test/examination. Any additional materials required by the student to complete the test/examination may only be brought into the venue under the supervision of the invigilator. No tools, instruments, materials, models or equipment may be taken out of the laboratory until the end of the test/examination and after all work has been taken in for marking.
  - C.2. At lunch time the invigilator will inform the students to stop working. All gas taps are to be turned off and the students are to stand by their workstations and await the invigilator's instructions. Upon checking each individual student's work the invigilator will give the student permission to leave the laboratory. At the end of the lunch break, the invigilator will allow the students to re-enter and carry on from where they left off.
- D. At the end of the day:**
  - D.1. The invigilator will inform the students to stop working.
  - D.2. All students will tidy their work stations and lay out their work-in-progress on their work benches.
  - D.3. All students will then clean the laboratory to the satisfaction of the invigilator.
  - D.4. After the laboratory has been cleaned, the student will stand by their work stations and the invigilator will check all work to ensure that everything is present. The onus is on the student to ensure that all his/her work is present on the bench for inspection. The student will then be told that he/she can go

and must leave the laboratory immediately. The student's work is to be left on the top of his/her workbench. If the student has a muffle to go into the over-night furnace, the student must go to the casting room with the muffle and wait there for the invigilator.

D.5. After all the students have left, the invigilator will secure and lock the laboratory.

**E. A student may not:**

E.1. Touch or handle another student's work;

E.2. Discuss his/her work or another student's work with another student;

E.3. Leave the test/examination room FOR WHATEVER REASON without the permission of the designated invigilator;

E.4. Work at another student's work station;

E.5. Invest or cast another student's work, either together or separately with their own work.

F. Student completing the work prior to the end of the test or examination may inform the invigilator that he/she is finished. He/she must then tidy his/her workstation and hand in his/her completed work. The student must then leave the laboratory immediately. At the end of the test or examination, the student must return and help to clean the laboratory.

G. At the end of the test/examination the invigilator will stop the students from working. Students are then required to clean the laboratory. When the laboratory is clean, the invigilator will take in the student's work. It is the student's responsibility to see that all his/her work is clearly marked with his/her name or number.

H. Students are to hand in their own work. Test/examination work MAY NOT be handed in by another student.

**I. Casting procedure**

I.1 A student may only cast his/her own work.

I.2 The student will ensure that his/her muffle and casting ring is clearly marked with his/her name or number.

I.3 In the event that a student casts another student's muffle and casting ring his/her own muffle and casting ring will be withdrawn and he/she will have to start that section of work again. If the other student's muffle is a miscast, he/she will be allocated extra time only at the discretion of the Head of Department.

I.4 All castings need to be performed in the presence of the invigilator. When ready to cast please inform the invigilator. Failure to do so will result in your casting being withdrawn.

**J. Flasking and Packing of Dentures**

The student will ensure that his/her flasks and clamps are clearly marked or labeled with his/her name or number. In the event that a student packs or flasks another student's work, his/her own work will be withdrawn and he/she will have to start that section of the work again. If the other student's work has been damaged, he/she will be allocated extra time at the discretion of the Head of Department.

## **K Procedure for packing overnight furnace**

When a student wants a muffle or casting ring to go into the overnight furnace he/she will take the muffle or cast ring to the casting room after his/her work station has been checked at the end of the day. The invigilator will then pack the furnace and set the times and temperature. Each student will note the position of his/her muffle or casting ring in the furnace and the casting in the morning will be in the reverse sequence to the placing of the muffles or casting rings the night before.

- L** After the invigilator has confirmed that students acknowledge the rules as displayed on the class notice board and those additional rules and/or instructions (where necessary) have been verbally explained, the paper is issued and the test/examination will start.

### **4.3.4. First Aid Certificate**

Students shall not be permitted to sit for the examinations at the end of the third year of study unless they are in possession of a Certificate in General First-Aid issued by a first-aid organization recognized by the Institution

### **4.3.5. Re- Registration Rules**

Rule G16 of the General Handbook for Students applies.

### **4.3.6. Exclusion Rules**

In addition to Rule G17, the following rule applies: A first year student who fails 3 or more subjects with a final mark of less than 40% in these subjects will not be permitted to reregister in the Dental Technology programme. De-registration from any subject is subject to the provisions of Rule G6 (2). Students wishing to re-apply must do so in writing to the department and may be required to undergo further placement testing.

### **4.3.7. Interruption of Studies**

In accordance with Rule G21A (b), the minimum duration for this will be three (3) years of registered study and the maximum duration will be five (5) years of registered study, including any periods of WPBL. 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. (Please note that this rule is necessary to comply with the South African Dental Technicians Council Rules as per the Dental Technicians Act, 1979 (Regulations regarding the training of student Dental Technicians, No. 21 (4) w.e.f 23 February 2001.)

### **4.3.8. Workplace Based Learning**

Students registered for Applied Dental Technology II are required to provide the department with proof of having completed 10 days of Workplace Based Learning at a commercial dental laboratory.

Students registered for Applied Dental Technology III are required to provide the department with proof of having 20 days of Workplace Based Learning at a commercial laboratory.

The necessary forms, to be completed by the student and the laboratory owner, are obtainable from the Secretary and must be returned no later than the first day of the fourth term. The department may, at its discretion, allocate teaching time for this exercise, but this will not exceed 10 teaching days for 3rd year students and 5 teaching days for 2nd year students.

An additional fee, for third year students only, is payable to the Institution for Workplace Based Learning registration.

#### **4.3.9. *Materials Purchases***

Money for materials purchases are to be deposited with the official Durban University of Technology cashiers into account number FDTS 301374. A duplicate receipt is to be requested from the cashier which then needs to be presented to the Senior Technical Assistant who will process the payment on the internal departmental system.

#### **4.3.10 *Vaccinations***

The Department will facilitate a mandatory Hepatitis B vaccination for first time entering students.

## 4.4 Subject Content

### **SUBJECT CONTENT: ND: DENTAL TECHNOLOGY**

**NB: Students are to read this section in conjunction with the relevant study guide.**

#### **ORAL ANATOMY (OANA101)**

##### **Assessment Plan**

Theory Tests	-	90%
Presentation	-	10%

##### **Topics Covered**

Introduction to oral anatomy. Surface anatomy. The mucous membrane.

The human skull, including the Maxillae, Mandible and their relationship to the teeth. The Temporomandibular joint. Muscles. Border movements of the mandible. The salivary glands. Diseases of the oral cavity. Nerves. Blood supply to the oral cavity. Lymphatic drainage of the Head and Neck. Dental histology.

#### **TOOTH MORPHOLOGY (TMOR101)**

##### **Assessment Plan**

Theory Tests	-	75%
Drawings and Cravings	-	25%

##### **Topics Covered**

Dental Morphological Terminology. Permanent maxillary incisors. Permanent mandibular incisors. Permanent canines.

Permanent maxillary premolars. Permanent mandibular premolars, Permanent maxillary molars.

Permanent mandibular molars. Tissues of the teeth and pulp cavities of permanent teeth.

Oral anatomy related to oral function. Chewing. Occlusion and malocclusion. The primary dentition.

Dental anomalies. Forensic Dentistry.

#### **APPLIED DENTAL TECHNOLOGY I (APDT101)**

##### **Assessment Plan**

Class work	-	40%
Assessment	-	60%

##### **Topics Covered**

The handling of gypsum products and wax products, Pouring, trimming and finishing of models, Special (custom) trays. Occlusal rims. Articulation. The setting up of artificial teeth and festooning, Post-Dams. Flasking, packing and polishing, Selective grinding. Acrylic denture repairs,

#### **APPLIED DENTAL TECHNOLOGY II (APDT201)**

##### **Assessment Plan**

This subject is run as a continuous assessment and therefore:-

The pass mark for this subject is 50%.

There will be no formal examination at year end.

There is no supplementary examination/test. Your final mark will be made up of class work (40%) and formal moderated tests (60%).

A 40% subminimum per section (Crown & Bridge, Orthodontics, Prosthetics and Chrome) is required before entry is permitted into the final control test.

A 40% sub-minimum is required for the final combined control test.

Please refer to your discipline specific student guide for further details.

**This subject consists of 4 study units all of equal weighting namely:  
(Crown & Bridge, Cobalt Chrome, Orthodontics & Prosthetics)**

### **Topics Covered**

#### **Prosthetics**

Aesthetics in dentures. Reline and rebase. Odd jaw relationship dentures. Complete upper opposing natural teeth.

Closed bite set-up. Insertion of palatal and other strengtheners. Clear palate. Resilient denture bases.

Inlays of artificial teeth. Acrylic partial dentures. Basics for partial dentures. Clinical cases.

#### **Cobalt Chrome**

Removable partial dentures, Construction of chrome cobalt partial dentures with the emphasis on survey and block out.

#### **Orthodontics**

Diagnostic models, Springs for mesiodistal movement, Springs for buccal movement, Springs for lingual movement

Springs for reduction of overjet & alignment of incisors, Base plate and bite planes, Screw type appliances, Clasps

#### **Crown and Bridge**

Pin, Base & ditching of models, Working casts and dies, Wax Patterns, Spring, investing, casting and finishing, Posts, Soldering and constructing a three-unit full metal bridge, Metal Inlays/Onlays  
Temporary Crowns

### **APPLIED DENTAL TECHNOLOGY III (APDT301)**

#### **Assessment Plan**

Class work — 40%

Formal Tests — 60%

### **Topics Covered**

#### **Prosthetics**

Semi-adjustable articulator. Fully balanced occlusion. Gum tinting. Immediate dentures. Duplication.

Overdentures tooth and implant supported. Splints, stents and surgical templates. Clinical cases, Maxillofacial: Obturators and variations.

#### **Cobalt Chrome**

Removable partial dentures, Construction of chrome cobalt partial dentures with the emphasis on casting, working off, and fitting cobalt chrome dentures. A brief overview of acrylic work on cobalt chrome dentures

#### **Orthodontics**

Spring and screw expansion appliances, Habit preventers, Advanced orthodontic springs  
Intermaxillary and extra oral traction, Fixed orthodontic appliances, Mouth guards

#### **Crown and Bridge**

Introduction to fixed bridges. Bridge design and abutment selection. Pontics and connectors. Spruing, investing, casting and finishing. Soldering and brazing. Bridges. Posts. Introduction to metal ceramics. The cast metal ceramic crown and bridge design. Cast metal ceramic crown and bridge construction. Porcelain application and repair techniques.

## **DENTAL MATERIALS SCIENCE I (DMSC102)**

### **Assessment Plan**

Assessment -	75%
Assignments -	25%

### **Topics Covered**

History of Dental Technology. Introduction to dental materials and their properties, Gypsum products, Impression materials, Denture base resins, Waxes, Separating media. Denture cleaners, Dental Instruments, Abrasion and polishing.

## **DENTAL TECHNOLOGY THEORY I (DTTH 101)**

### **Assessment Plan**

Assessment -	75%
Assignments -	25%

### **Topics Covered**

Introduction to false teeth. Introduction to removable prosthodontic techniques. Landmarks of the edentulous mouth. Preliminary impressions and casts. Anatomical changes associated with the loss of teeth. Special/custom trays. Master/final/secondary casts/models. Occlusal rims. Articulators, Artificial tooth arrangement. Festooning (waxing up). Post-Dams, Retention, stability and support of complete dentures. Flasking & packing complete dentures. Selective grinding. Pumicing and polishing of dentures. Acrylic repairs. Speech

## **DENTAL TECHNOLOGY THEORY II (DTTH 211/221)**

### **Assessment Plan**

Theory Tests -	75%
Presentation & Assignments -	25%

### **Topics Covered**

#### **Crown and Bridge**

Introduction to fixed restorations, Crown & Bridge Systems, Crown & Bridge wax-up, Sprue, Invest & Casting metal crowns, Different types of margin preparations, Occlusal arrangement/Pathological Occlusion, Occlusal interferences  
Porosity, Bridges, Design principles of posts, Temporary crowns & Metal inlays, Technological advancements in Crown & Bridge

#### **Orthodontics**

Introduction, Definition of orthodontics, Orthodontic stainless steel and stainless steel wire  
Orthodontic appliance and removable appliances, Normal occlusion and morphology of normal occlusion  
Occlusal and orthodontic forces, Development of primary and permanent dentition, Tissue changes  
Malocclusion of teeth, Classification of malocclusion, Anchorage force and retention  
Principles of orthodontic treatment, Case discussions

#### **Cobalt Chrome**

Removable partial dentures, Advantages of a metal partial denture. Brief overview of the components of a RPD.  
Classification of RPD. Introduction to design of RPD. An in-depth study of major connectors. An in-depth study of rests. An in-depth study on retainers. Guide plates and acrylic retentions.

#### **Prosthetics**

Introduction saving material and time. Aesthetics in dentures. Reline and rebase. Adjustments for re-tries.  
Odd jaw relationship dentures. Identification of dentures. Complete upper opposing natural teeth. Closed bite set-up. Insertion of palatal and other strengtheners. Clear palate. Resilient denture bases. Inlays for artificial teeth. Acrylic partial dentures. Partial dentures. Clinical cases.



## **DENTAL TECHNOLOGY THEORYIII (DTTH 311/321)**

### **Assessment Plan**

Theory Tests	75%
Presentation & Assignments	25%

### **Topics Covered**

#### **Crown and Bridge**

Introduction to fixed bridges. Biomechanics of fixed bridge. Bridge design and abutment selection. Cantilever Bridges, Tilted molar abutment. Pontics and connectors. Margin design. Spruing, investing, casting and finishing. Soldering and brazing metal ceramic bridges. Bridges. Temporary restorations.

Introduction to metal ceramics. Cast metal ceramic crown and bridge design (Optimizing aesthetics).

Cast metal ceramic crown and bridge construction. Porcelain application. Reducing stress in porcelain. Diagnostic set-ups. Color in Ceramics

#### **Orthodontics**

Neuromuscular development of normal occlusion, Preventive orthodontics, Interceptive orthodontics, Habits breakers. Fixed appliances, Soldering and welding of stainless steel, Case discussions

#### **Cobalt Chrome**

Removable partial dentures, Duplicating. Spruing. Investing. Heating the muffle (Burn Out).

Casting: Induction and flame. Constituents of a chrome cobalt alloy. Working off.

Electro polishing. Finishing the RPD. Fitting the RPD. Miscasts. Casting defects. Indirect Retention. Preparation of the remaining dentition.

The RPI Bar concept. R.P.A. clasp systems.

#### **Prosthetics**

Semi-adjustable articulator. Fully balanced occlusion. Gum tinting. Immediate dentures. Duplication.

Clinical cases. Overdentures tooth & implant supported. Splints, stents and surgical templates.

Clinical cases.

Maxillofacial, Obturators and variations. Fractures of the facial bones.

## **COMMUNICATION (CMCA102)**

### **The Assessment Plan**

Test 1	25%
Test 2	25%
Assignment 3	25%
Test 4	25%
Examinations	25%

### **Topics Covered**

Communication skills and professionalism. Assertive behaviour. Confidence in speaking.

Appropriate and effective body language. Active listening. Writing skills. Reading skills. Effective communication.

Self-image and interpersonal relations. Conflict resolution skills. Negotiations. Inter-cultural communication.

## **BUSINESS PRACTICE I (BPRD101)**

### **Assessment Plan**

Theory Tests	40%
Examinations	60%

### **Topics Covered**

Human Resources Management, Effective time utilization. Set up and maintain administrative systems.

Application of an applicable software programmes. Develop and use interactive skills. Industrial relations.

Establish goals (Self and organization). Problem solving and decision making. Conflict management.

Negotiation skills. Crisis management. Assertive behaviour. Performance Management, Labour Relations Act.

Health and Safety Act. Basic Conditions of Employment

Accounting, Basic accounting, Transactions and the accounting equation, Accounting definitions Income statement and balance sheet, Analysis and interpretations, Bank reconciliation, Cash flows

## **DENTAL MATERIALS SCIENCE II (DMSC211/221)**

### **Assessment Plan**

Theory Tests & Assignment	40%
Examinations	60%

### **Topics Covered**

Elastic impression materials. Die materials. Casting Waxes. Casting Investments, Metal solidification & microstructure. Constitution of alloys. Casting procedures for dental alloys. Dental Casting alloys.

Electro polishing, Tarnish and corrosion, wrought metal alloys, Soldering and Welding, Rebase materials

## **DENTAL MATERIALS SCIENCE III (DMSC301)**

### **Assessment Plan**

Theory Tests	75%
Presentation & Assignments	25%

### **Topics Covered**

All ceramics. Platinum foil & refractory die materials for ceramic restorations. Heat Treatment, Thermoplastic materials.

Evaluation of articles and assignments, Osseointegration dental implant materials, Health factors in a dental laboratory

Porcelain, Noble metal - ceramic alloys, Base metal - ceramic alloys, Biological response to dental materials. Bonding of ceramics

Selection and evaluation of metal ceramic casting alloys, Application of dental materials, Trouble-shooting

## **JURISPRUDENCE I (JURI 111/121)**

### **Assessment Plan**

Theory Tests and assignment	40%
Examinations	60%

### **Topics Covered**

Objectives, functions and powers of the SADTC, Education, training and registration of Dental Technicians Offences and the control over artificial teeth, Disciplinary powers of the Council

General and supplemental provisions, Regulations of the Council, Adherence to moral standards

Professional ethics code, Loyalty to the organization and profession, Professional Image. Other legislative Laws and Acts that pertain to employed Dental Technicians

## **PHYSICS AND CHEMISTRY (PHCD 111/121)**

### **Assessment Plan (Physics)**

Theory Tests	40%
Examinations	60%

### **Topics Covered**

Introduction to Mechanics, Units, standards and measurements, Vectors, Motion, Introductory Kinematics Equations of motion, Forces, Newton's Laws of Motion, Statics, Torque, Levers in the body: Dental Applications Equilibrium, Elastic Properties of Matter, Stress and Strain, Hooke's Law, Young's Modulus, Ultimate Strength Shearing, Basic Fluid Mechanics, Density, Pressure, Viscosity, Equation of Continuity, Archimedes' Principle Thermal Properties of Matter, Heat and Temperature, Temperature scales, Heat Transfer, Thermal Expansion Specific Heat Capacity, Latent Heat, Light, Nature of Light, Reflection and Refraction, Dispersion, Colour

### **Assessment Plan (Chemistry)**

Theory Tests	40%
Examinations	60%

### **Topics Covered**

Matter. Chemical Equations and Stoichiometry. Solutions. Chemical Reactions. Reaction Rates and Equilibrium.

Acids, Bases and Salts. Electrochemistry and Redox Theory. Applied Chemistry of Selected Topics. Organic Chemistry.

## **5. B TECH: DENTAL TECHNOLOGY (BTDNT1)**

### **5.1 Programme Information**

The B Tech programme is a single year qualification which enables successful students to become registered (SADTC) laboratory owners. A final practical assessment is conducted which, if completed successfully, enables the qualified student to register with the SADTC. All subjects in this programme do not have a final examination. The results for these subjects are determined through a weighted combination of assessments. As such, there are no supplementary examinations. Students are encouraged to work steadily through the period of registration in order to achieve the highest results possible. Assessment details are listed under each subject at the back of this handbook. Moderation follows the DUT requirements.

### **5.2 Learning Programme Structure**

Code	Subjects	Year of Study	CA/E*	Credits
RMDT101	Research Methods & Techniques I	4	CA	0.200
BPRD201	Business Practice II	4	CA	0.200
DMSC411	Dental Materials Science IV (Module 1) (Theory)	4	CA	0.125
DMSC421	Dental Materials Science IV (Module 2) (Research Report)	4	CA	0.125
DTTH411	Dental Technology IV (Module 1) (Crown & Bridge and Orthodontics)	4	CA	0.088
DTTH421	Dental Technology IV (Module 2) (Chrome and Prosthetics)	4	CA	0.088
DTTH431	Dental Technology IV (Module 3) (Practical)	4	CA	0.175

\* CA= Continuous Assessment; E = Examination at end of Subject / Module.

### 5.3 Programme Rules

#### 5.3.1 Entrance Requirements:

National Diploma: Dental Technology or an equivalent qualification

#### 5.3.2 Selection Criteria

Entry into the B Tech is not automatic. A total of 15 places are available to students and selection will be on the basis of academic performance as determined by a ranking system. Working experience will be an added advantage for those students not applying directly from the National Diploma.

Students are required to formally apply in the third term of their third year of study should they wish to be considered for the B Tech. Applicants from industry must apply by the 30 September 2015.

Application forms are available from the Faculty Office: Health Sciences. Completed application forms must be submitted to the Departmental secretary of Dental Sciences.

#### I. Ranking Criteria:

**Table 1: Workplace experience post National Diploma**

0-1 years	1-3 years	3-5 years	>5 years
0	5	10	15

An applicant's ranking is determined by the total point's score which corresponds to the percentage obtained for the subjects: **Applied Dental Technology III, Dental Materials Science III and Dental Technology Theory III**, plus the points for work experience and duration of studies.

Please see **example** in the table below:

Criteria	Ranking Score (points)
Minimum final year subject marks to be obtained is as follows:	
Applied Dental Technology III 55%	55
Dental materials Science III 60%	60
Dental Technology Theory III 60%	60
ND: Dental Technology completed in minimum duration (3 years)	10
Workplace experience (Diploma just completed)	0
<b>TOTAL</b>	<b>185</b>

Applicants scoring a total of less than 175 ranking points will not be eligible for the BTech programme.

Students, who have completed the undergraduate programme within the specified study period, without repeating subjects, will be awarded an extra ten (10) points.

<sup>1</sup> Evidence of industry experience in a registered Dental Technology Laboratory must be provided with the application.

Students are required to formally apply in the third term of their third year of study should they wish to be considered for the BTech programme. Application forms for this qualification are available from the Faculty Office of the Faculty of Health Sciences.

### 5.3.3 Pass Requirements

5.3.3.1 A student Dental Technologist must complete the BTech: Dental Technology within two (2) years. This is a South African Dental Technicians Council rule as well as that of the Durban University of Technology.

5.3.3.2 Subject Rules

**Dental Technology IV (Module 3) (Practical)** is divided into four (4) study units, namely: Crown & Bridge; Orthodontics; Cobalt Chrome; and Prosthetics

A sub-minimum mark of 40% is applicable to each study unit.

#### **Dental Materials Science IV**

The subject consists of two modules:

- Module 1: Theory
- Module 2: Research Project

Each module will contribute fifty percent (50%) towards the final mark.

Both modules must be passed in the same academic year.

With reference to Module 2, a student not obtaining the required standard at submission date will be allowed to re-submit before January of the following year, but will fail the current year

#### **Dental Technology Theory IV**

The subject consists of two modules each containing two study units:

- Module 1: Study Unit 1 - Crown & Bridge and Study Unit 2: Orthodontics;
- Module 2: Study Unit 1 - Chrome and Study Unit 2: Prosthetics

Both modules run for the entire year (annual)

Both modules must be passed in the same academic year.

Final marks for each study unit will be determined as follows:

<b>Assessment</b>	<b>Weighting</b>	<b>Sub minimum</b>
Test 1	15%	N/A
Test 2	30%	40% required
Test 3	30%	40% required
Assignment/Presentation	25%	50% required

#### **Note for each Study Unit:**

- A subminimum pass mark of forty percent (40%) is required for Test 2 and Test 3.
- A subminimum of fifty percent (50%) will apply to assignments / presentations.

**NOTE: In addition to the above, the rule pertaining to the**

**ND: Dental Technology - 4.3.3.7 applies.**

## Business Practice II

The course will be evaluated by continuous evaluation. No formal examinations will be written. Students will be evaluated by submitting a formal business plan as well as a group assignment and an accounting equation written test.

Assessment	Weighting	Sub minimum
Accounting equation		5% -50%
Mall exhibition	15%	50%
Business Report		80% 50% with a 40% subminimum on the financial section

## Research Methods & Techniques I (RMDT101) and Research Report (DMSC421)

Are continuous assessment subjects. There are no formal examinations.

### With reference to Research Methods & Techniques I (RMDT101) and Research Report (DMSC421):

1. A sub-minimum mark is required for each assessment task.
2. There are no re-submissions as opportunities are given to students, to submit draft work.
3. In the event of not obtaining the sub-minimum mark for any of the assessment tasks, students will then fail the entire subject.
4. “Research Methods & Techniques I” is a co-requisite for “Dental Materials IV (Module II) (Research Project)”.

**NOTE:**In addition to the above, the rule pertaining to the ND: Dental Technology - 4.3.3.7 applies.

## 5.4 Subject Content: B Tech: Dental Technology

**NB:** Students are to read this section in conjunction with the relevant study guide

### BUSINESS PRACTICE II (BPRD201)

#### Assessment Plan

Accounting Equation	5%
Mall Exhibition	15%
Business Report	80%

#### Topics Covered

Strategic planning. Financial systems, Operating systems. Human resources. Marketing systems. Procurement systems. Quality control systems. Loss control systems. Effective time management. Applicable software packages. Design a dental laboratory. Develop and use interactive skills. Employer/employee relationship. Establish goals (Self and organization). Problem solving and decision making. Conflict handling. Motivation. Crisis management. Client relations. Market research. Assess economic viability. Creative and innovative thinking. Develop markets. Present business plan. Develop organizational network. Effective advertising. Laboratory prescription card. Financing a business. Opening a small business. Computer lectures. Promoting your business. VAT and the Dental Laboratory. Partnerships, and Accounting equation.

## **DENTAL MATERIALS SCIENCE IV (DMSC41 I) THEORY**

This subject is run as a continuous assessment and therefore:-

The pass mark for this subject is 50%.

There will be no formal examination at year end.

Please refer to your discipline specific student guide for further details.

### **Assessment Plan**

Theory Tests 60%

Assignments 40%

### **Topics Covered**

Biological response to dental materials; Occupational Health and Safety of Dental Materials; Dental Implant Materials; and Maxillofacial Dental Materials.

## **DENTAL MATERIALS SCIENCE IV (DMSC42I- Module II) RESEARCH REPORT**

(See subject guide for specific details)

### **Assessment Plan**

Research abstract 5%

Poster 15%

Research Report 80%

A research project following the submission of a Proposal will be executed. A final report will be compiled.

## **DENTAL TECHNOLOGY IV (DTTH 41 I) Crown & Bridge & Orthodontics**

### **Assessment Plan**

Written Tests 75%

Assignments 25%

### **Topics Covered**

#### **Crown and Bridge**

All-ceramic systems; Metal-ceramic systems; Planning and design factors for large cases. Occlusion factors in ceramic restorations; The use of precision attachments and broken stress connectors in large cases; Combination cases with removable partial dentures and fixed restorations with milling and attachments; Implant borne metal-ceramic restorations; Design factors for practical cases.

#### **Orthodontics**

Principles of angle Class I treatment; Principles of angle Class II treatment; Principles of angle Class III treatment; Functional jaw orthopedics; Case discussions; Practical cases.

## **DENTAL TECHNOLOGY IV (DTTH42I) Chrome & Prosthetics**

### **Assessment Plan**

Written Tests 75%

Assignments 25%

### **Chrome**

Removable partial dentures (Cobalt Chrome); Design of chrome cobalt partial dentures; Practical cases; Combination work/precision attachments.

### **Prosthetics**

Introduction to implantology; Implant terminology; Types of implants; Prosthetic procedures; Occlusal considerations; Biomechanical considerations; Practical cases; Combination work and attachments.

## **DENTAL TECHNOLOGY IV (DTTH431) (Practical)**

### **Assessment Plan**

Class work	40%
Formal Test	60%

### **Topics Covered**

#### **Prosthetics**

Overdentures with attachments, Implant terminology, Types of implants, Prosthetic procedures, Occlusal considerations.

Biomechanical considerations, Practical cases, Combination work.

#### **Cobalt Chrome**

Removable partial dentures, Design of chrome cobalt partial dentures, Practical cases, Combination work.

#### **Orthodontics**

Principles of angle Class I treatment, Principles of angle Class II treatment, Principles of angle Class III treatment.

Functional jaw orthopaedics, Case discussions, Practical cases;

#### **Crown and Bridge;**

Metal-ceramic systems; Planning and design factors for large cases, Occlusion factors in ceramic restorations; The use of precision attachments and broken stress connectors in large cases; Combination cases with removable partial dentures and fixed restorations, including milling and precision attachments; CAD-CAM. Practical cases.

## **RESEARCH METHODS AND TECHNIQUES (RMTQ101)**

### **Assessment Plan (See subject guide for specific details)**

Research abstract	-	10%
Research Poster	-	20%
Research Report/Case Study/Journal Article	-	70%

Note that the final pass mark for this module is 50%.

### **Topics Covered:**

Writing of a Research Report/ Journal Article/Case Study by providing the: Background/Rationale/ Introduction; Literature Review; Research Design and Methodology; Results/Findings and Discussions; Conclusions and Recommendations; Referencing through EndNote and using Turnitin; Writing a research abstract for a research poster; and presenting research results to peers and to the wider DUT community.

## **7. MASTER'S OF HEALTH SCIENCES TECHNOLOGY: DENTAL TECHNOLOGY (MHDNT1)**

### **7.1 Programme Information**

This full research qualification is aligned to Rule G24 in the General Student Handbook. This 180 credits qualification is offered at SAQA Level NQF level 9. The student will conduct independent research under guidance in Dental Technology, and contribute to knowledge production in that field. The research problem, its justification, process and outcome is reported in a dissertation, which complies with the generally accepted norms for the research at that level. Ultimately, the graduate will make a valuable contribution to the existing body of knowledge and initiate change that will help to develop and advance the profession of Dental Technology. *The minimum duration of the programme is one (1) of study and the maximum duration is three (3) years of study.*



## **7.2 Programme Rules**

### **7.2.1 Admission Requirements**

In accordance with Rule G5 in the General Student Handbook, acceptance into the programme is limited, and entry into the Master of Health programme is not automatic. In addition to Rule G24 (1), candidates must be in possession of a Bachelor's Degree in Dental Technology or an equivalent qualification, or have been granted status or advanced standing according to Rule G10. All international applicants need to have their qualifications evaluated by the South African Qualification Authority (**SAQA**).

Furthermore, the applicant needs to complete all internal application and selection processes as required by the Department's Research Committee.

### **7.2.2 Pass Requirements**

Please refer to Rule G24.

### **7.2.3 Re-registration Rules**

Rule G24 (2), Rule G26 (5) and the General Student Handbook.

### **7.2.4 Exclusion Rules**

Rule G24 (1)(d); Rule G24 (2), and the General Student Handbook.

### **7.2.5 Interruption of Studies**

In accordance with Rule G24, the minimum duration for this programme will be one (1) year of registered study and the maximum duration will be three (3) years of registered study. 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.

The applicant also needs to complete all internal application processes as required by the department's research committee.

## **8 DOCTOR OF DENTAL TECHNOLOGY (DDentalTech)**

### **8.1. Programme Information**

This research intensive qualification is aligned to Rule G25 in the General Student Handbook. This 360 credits qualification is offered as SAQA Level NQF level 10. The degree of Doctor of Science is awarded on the basis of the submission of a thesis. The thesis should provide evidence of the student: Being able to make an original and substantial contribution to the body of knowledge through the use of appropriate research principles and methods; Gaining knowledge and skills needed to apply scientific research methods independently and critically; Demonstrating competence in technical skills relevant to Dental Technology, and high level or personal autonomy, commitment and accountability in the design and execution of research; Think globally and consider issues from a variety of perspectives and apply international standards and practices within Dental Technology; and Demonstrating principles of ethical reasoning and professional responsibility. The thesis must comply with the normal technical requirements and rules with regard to scope, quality and layout.

## **8.2 Programme Rules**

### **8.2.1 Minimum Admission Requirements**

In addition to Rule G25 (1) in the General Student Handbook, persons must be in possession of a Master of Health Sciences in Dental Technology or equivalent, or have been granted status or advanced standing according to Rule G10. Please also refer to the Postgraduate Student Handbook.

### **8.2.2 Pass Requirements**

Refer to Rule G25 (4) in the General Handbook for Students

### **8.2.3 Re-registration Rules**

Please refer to Rule G26 (5) and the Postgraduate Student Handbook.

### **8.2.4 Exclusion Rules**

Please refer to Rules G25 (2) (B; C (ii)) in the General Student Handbook.

### **8.2.5 Interruption of Studies**

In accordance with Rule G25 (2), the minimum duration for this programme will be two (2) years of registered study and the maximum duration will be four (4) years of registered study. 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. Please refer to the Postgraduate Student Handbook.

## **SECTION B: DENTAL ASSISTING**

### **9. HIGHER CERTIFICATE: DENTAL ASSISTING (HCDNA1) [Full Time: One-Year Qualification]**

#### **9.1. Programme Information**

Certain subjects in this do not have a final examination. The results for these subjects are determined through a weighted combination of assessments. As such, there are no supplementary examinations. Students are encouraged to work steadily through the period of registration in order to achieve the highest results possible. Assessment details are listed under each subject at the back of this handbook. Moderation follows the DUT requirements.

#### **9.2. Learning Programme Structure**

Code	Subjects	Year of Study	Credits Nated	CA/E*
CSTN101	Cornerstone	I	.094	E
DAPA101	Dental Assisting Practical 1A	I	.093	CA
DATA101	Dental Assisting Theory 1A	I	.126	CA/ E
DNPM101	Dental Practice Management	I	.094	E
OAPA101	Oral Anatomy and Pathology 1A	I	.093	CA/ E
DACPI01	Dental Assisting Clinical Practice	I	0125	CA
DAPB101	Dental Assisting Practical 1B	I	.093	CA
DATB101	Dental Assisting Theory 1B	I	.126	CA/ E
OAPB101	Oral Anatomy and Pathology 1B	I	.093	CA/ E
PHDA101	Pharmacology for Dental Assisting	I	.063	CA/ E

\* CA —Continuous assessment / E —Examination

### 9.3. Programme Rules

#### 9.3.1. Minimum Admission Requirements

In addition to Rule G7 the following apply:

The minimum entrance requirement for entry into programme: Higher Certificate in Dental Assisting is a National Senior Certificate (NSC), a Senior Certificate or a National Certificate (Vocational) (NC(V)), and must include the following subjects at the stated minimum ratings below:

Subject	NSC Rating
English (home) <b>OR</b> English (1st additional)	3
Life Sciences <b>OR</b> Physical Sciences	3
Mathematics <b>OR</b> Mathematics Literacy	3 5
and two 20 credit subjects, of which not more than one may be a language	3

The minimum requirement for holders of the Senior Certificate into the programme: Higher Certificate in Dental Assisting is matriculation exemption with the following subjects at the stated ratings:

Compulsory Subjects	HG	SG
English	E	C
Mathematics	E	C
Biology <b>OR</b> Physical Science	E	C
and two 20 credit subjects, of which not more than one may be a language	E	C

#### 9.3.2. Selection Procedures

In accordance with Rule G5, acceptance into the programme is limited to seventy five (75) places. As more qualifying applications are received than can be accommodated, the following selection process will determine placement in the programme:

All applicants must apply through the Central Applications Office (CAO). Preference is given to those who have Dental Assisting as their first choice. Initial shortlisting for selection is based on the applicant's academic performance in Grade 12 (Grade 11 or Grade 12 Trial marks, will be used for current matriculants).

All applicants that meet the above requirement will be notified and will be required to complete and submit documentation to the Dental Assisting Programme.

Applicants who are successful following the interview will then be ranked according to the table below:

Assessment	Weighting
Results of the NSC, SC or NC(V) certificate	50%
Certificate of attendance from a dental surgery	10%
Submitted documentation	10%
Interview	30%

Shortlisted students will be invited to undergo placement testing. Applicants who pass the placement tests are invited for an interview. Provisional acceptance is given to selected applicants awaiting National Senior Certificate (NSC) results. If the final Grade 12 NSC results do not meet the minimum entrance requirements, this provisional acceptance will be withdrawn.

Final selection for placement will be based on results in the SC / NSC and DUT placement tests.

### **9.3.3. Pass Requirements**

Notwithstanding the DUT pass requirements (G14 and G15), students are encouraged to apply themselves to their learning, and strive for the best academic results possible in order to adequately prepare themselves for their future careers, and to maximize possible employment opportunities.

### **9.3.4. Uniform**

It is compulsory for all students to wear the prescribed uniform. Failure to do so will result in disciplinary action. Dental Assisting students are expected to be appropriately attired when attending clinical sessions. This includes the use of gloves, masks, eyewear, gowns, etc.

### **9.3.5. First Aid Certificate**

Students shall not be permitted to graduate unless they are in possession of a current Level 2 First Aid Certificate at the time of completing the Dental Assisting programme. The first aid certificate will be arranged and paid for by the programme. Students missing the course for any reason will be expected to obtain the required certificate at their own cost and in their own time.

### **9.3.6. Hepatitis B**

All students registered for the programme are required to complete a course of Hepatitis B inoculations arranged and paid for by the department.

### **9.3.7. Duration of Programme**

In accordance with the DUT Rule G20B\*, minimum duration is one year of registered study, including any periods of clinical practice and maximum duration will be two years including any periods of clinical practice.

### **9.3.8. Exclusion Rules**

In addition to the DUT General Rule G17\*, a student who fails 50% or more of the subjects registered in the initial year of study with a final mark of less than 40% in the failed subjects will not be permitted to re-register in Dental Assisting programme. De-registration from any subject is subject to the provisions of Rule G6 (2)\*.

### **9.3.9. Interruption of Studies**

Should a student interrupt their studies for a period of more than two (2) consecutive years, the student will need to apply to the department for permission to re-register and will need to prove currency of appropriate knowledge and skills prior to being granted permission to continue with registration.

## 9.4 SUBJECT CONTENT FOR:

### Higher Certificate in Dental Assisting

**NB:** Students are to read this section in conjunction with the relevant study guide

#### SEMESTER I

##### DENTAL ASSISTING THEORY IA (DATA101)

###### Assessment Plan

Theory Tests	36%
Assignment	4%
Examination	60%

###### Topics Covered

Infection Control; Pain Control, Dental Materials, Radiography

##### DENTAL PRACTICE MANAGEMENT (DNPM101)

###### Assessment Plan

Theory Tests	36%
Assignment	4%
Examination	60%

###### Topics Covered

Patient Management, Practice Management, Ethics and Jurisprudence  
Office Technology and Management - (Theory and Practical)

##### ORAL ANATOMY AND PATHOLOGY IA (OAPA101)

###### Assessment Plan

Theory Tests	36%
Assignment	4%
Examination	60%
Study Units	
Microbiology	50%
Oral Anatomy and Physiology	50%

##### DENTAL ASSISTING PRACTICAL IA (DAPA101)

###### Assessment Plan

Clinical Exams	50%
Practical Tests	50%

###### Topics Covered

Surgery Orientation; Dental Equipment and Dental Instruments; Four Handed Dentistry; Clinical Procedures (including specialties); Clinical Asepsis; Radiographic Procedures

##### CORNERSTONE 101 (CSTN101)

The Cornerstone module is compulsory for all undergraduate students. The purpose of this module is to induct students into the community of higher education, with values and practices that promote self-awareness, social justice and environmental sustainability

###### Assessment Plan

TBC

## **SEMESTER 2**

### **DENTAL ASSISTING THEORY IB (DATB101)**

#### **Assessment Plan**

Theory Tests	36%
Assignment	4%
Examination	60%

#### **Topics Covered**

Nutrition, Oral Hygiene, Conservative Dentistry, Dental Specialities

### **ORAL ANATOMY AND PATHOLOGY IB (OAPB101)**

#### **Assessment Plan**

Theory Tests	36%
Assignment	4%
Examination	60%
Study Units	
Oral Pathology	50%
Medical Emergencies	20%
Cariology	30%

### **DENTAL ASSISTING PRACTICAL IB (DAPB101)**

#### **Assessment Plan**

Clinical Exams	50%
Practical Tests	50%

#### **Topics Covered**

Surgery Orientation; Dental Equipment and Dental Instruments; Four Handed Dentistry; Clinical Procedures (including specialties); Clinical Asepsis; Radiographic Procedures

### **DENTAL ASSISTING CLINICAL PRACTICE (DACP101)**

#### **Assessment Plan**

Work Integrated Learning hours	30%
Clinical Feedback	20%
Practical Tests	50%

#### **Topics Covered**

Surgery Orientation; Dental Equipment and Dental Instruments; Infection Control Practice; Radiographic Practice.

### **PHARMACOLOGY FOR DENTAL ASSISTING (PHDA101)**

Theory Tests	40%
Examination	60%

## **10. HIGHER CERTIFICATE: DENTAL ASSISTING [Part Time: Two Year Qualification]**

### **10.1 Programme Information**

Certain subjects in this do not have a final examination. The results for these subjects are determined through a weighted combination of assessments. As such, there are no supplementary examinations. Students are encouraged to work steadily through the period of registration in order to achieve the highest results possible. Assessment details are listed under each subject at the back of this handbook. Moderation follows the DUT requirements.

Rules as per study guide will apply.

## 10.2. Learning Programme Structure

Code	Subjects	Year of Study	Credits Nated	CA/E*
CSTN101	Cornerstone	I	.094	E
DAPA101	Dental Assisting Practical 1A	I	.093	CA
DATA101	Dental Assisting Theory 1A	I	.126	CA/ E
DNPM101	Dental Practice Management	I	.094	E
OAPA101	Oral Anatomy and Pathology 1A	I	.093	CA/ E
DACP101	Dental Assisting Clinical Practice	I	.0125	CA
DAPB101	Dental Assisting Practical 1B	I	.093	CA
DATB101	Dental Assisting Theory 1B	I	.126	CA/ E
OAPB101	Oral Anatomy and Pathology 1B	I	.093	CA/ E
PHDA101	Pharmacology for Dental Assisting	I	.063	CA/ E

\* CA —Continuous assessment / E —Examination

## 10.3 Programme Rules

### 10.3.1 Minimum Admission Requirements

In addition to Rule G7\*, the minimum entrance requirement is a National Senior Certificate (NSC), a Senior Certificate or a National Certificate (Vocational) (NC(V)) that is valid for entry into a National Certificate in Dental Assisting and must include the following subjects at the stated minimum ratings below:

**Table 1: Minimum Admission Requirements**

Compulsory subjects	NSC Rating	Senior Certificate		NC(V)
		HG	SG	
English <b>or</b> English 1 <sup>st</sup> Additional language	3	E	C	60%
Mathematics <b>or</b> Mathematical Literacy	3 5	E	C	60% 80%
Physical Sciences <b>or</b> Life Sciences	3	E	C	60%
Two additional 20 credit subjects of which not more than one may be a language.	3	E	C	60%

In addition to Rule G7\* the following apply:

The minimum entrance requirements for entry into Programme: Higher Certificate in Dental Assisting - Part Time is as follows:

- Applicants must be at least over twenty one (21) years of age<sup>1</sup> at the time of registration.
- Three (3) years' work experience in a dental surgery

<sup>1</sup> Please see motivation

(This programme is specifically designed to meet the needs of the industry in that HPCSA have deemed that all dental assistants require a professional registration of which a qualification is mandatory)

### 10.3.2. Selection Procedure

Rule G5\* applies and acceptance into the programme is limited. If more applications are received than can be accommodated, the following selection process will apply:

- All applicants must apply through the Central Applications Office (CAO).
- Applicants will then be invited to submit relevant documentation to the Department of Dental Sciences.
- Initial short listing for selection is based on the applicant's submitted documentation which will be examined and evaluated by the department.
- All applicants who have submitted the required documentation to the satisfaction of the Department of Dental Sciences may be invited to an interview.

Applicants who are successful following the interview will then be ranked using the weighting below:

**Table 2: Selection Procedure**

Assessment	Weighting
Results of the NSC, SC or NC (V) certificate	30%
Submitted documentation <sup>2</sup>	40%
Interview	30%

### Minimum Admission Requirements in Respect of Work Experience, Age, Maturity and Recognition of Prior Learning (RPL).

The DUT general rules G7 (3)\* and G7 (8)\* respectively will apply.

### Admission of International Students

The DUT Admission Policy for International Students and General Rules G4\* and G7 (5)\* will apply.

### 10.3.3. First Aid Certificate

Students shall not be permitted to graduate unless they are in possession of a current Level 2 First Aid Certificate at the time of completing the Dental Assisting programme. The first aid certificate will be arranged and paid for by the programme. Students missing the course for any reason will be expected to obtain the required certificate at their own cost and in their own time.

### 10.3.4. Duration of the Programme

*For part time students, the maximum duration is 2 years.*

### 10.3.5. Exclusion Rules

In addition to the DUT General Rule G17\*, a student who fails 50% or more of the subjects registered in the initial year of study with a final mark of less than 40% in the failed subjects will not be permitted to re-register in Dental Assisting programme. De-registration from any subject is subject to the provisions of Rule G6 (2)\*.

---

<sup>2</sup> Curriculum Vitae; Letter from the Dental Practitioner confirming employment; Assignment and Infection Control Essay



### **10.3.6 *Interruption of Studies***

Should a student interrupt their studies for a period of more than two (2) consecutive years, the student will need to apply to the department for permission to re-register and will need to prove currency of appropriate knowledge and skills prior to being granted permission to continue with registration.

### **10.4 Subject Content: Higher Certificate in Dental Assisting (Part-Time)**

\* Please refer to section 10.4 Subject Content.