

NATIONAL DIPLOMA: MEDICAL ORTHOTICS AND PROSTHETICS

Qualification code: NDOP04 - NQF Level 6

Campus where offered: Pretoria Campus

Important notification to new applicants:

No new applications will be accepted as from 2020. Students who enrolled for this qualification for the first time in 2017 (or thereafter), should note that it will not be possible to continue with any Baccalaureus Technologiae as from 2020, since it is being replaced by qualifications aligned with the newly-implemented Higher Education Qualification Sub-Framework. Potential students are advised to consult the University's website for any new qualifications which might not be published in this Prospectus.

REMARKS

a. *Admission requirement(s) and selection criteria:*

• **FOR APPLICANTS WHO OBTAINED A SENIOR CERTIFICATE BEFORE 2008:**

Admission requirement(s):

A Senior Certificate or an equivalent qualification, with a D symbol at Higher Grade (a C symbol at Standard Grade) for English and an E symbol at Higher Grade (a D symbols at Standard Grade) in Biology or Physiology and Physical Science and Mathematics.

Selection criteria:

There are four steps in the assessment process; all potential candidates will be required to complete all four steps. The weight of each step is given in brackets.

- Step 1: Academic performance (40%);
- Step 2: Potential assessment (20%);
- Step 3: Dexterity test (30%); and
- Step 4: Personal interview (10%).

• **FOR APPLICANTS WHO OBTAINED A NATIONAL SENIOR CERTIFICATE IN OR AFTER 2008:**

Admission requirement(s):

A National Senior Certificate with a bachelor's degree or a diploma endorsement, or an equivalent qualification, with an achievement level of at least 4 for English (home language or first additional language), 3 for Life Sciences, 3 for Physical Sciences and 3 for Mathematics or 4 for Mathematical Literacy.

Selection criteria:

To be considered for this qualification, applicants must have an Admission Point Score (APS) of at least **19** (with Mathematics) or **20** (with Mathematical Literacy).

Assessment procedures:

There are four steps in the assessment process; all potential candidates will be required to complete all four steps. The weight of each step is given in brackets.

- Step 1: Academic Performance (40%);
- Step 2: Potential Assessment (20%);
- Step 3: Dexterity test (30%); and
- Step 4: Personal interview (10%).

b. *Minimum duration:*

Three years.



- c. *Presentation:*
Four semesters of day classes and two semesters of Work-Integrated Learning at an institution approved by the Health Professions Council of South Africa (HPCSA). Students are placed by TUT for Work-Integrated Learning and internship.
- d. *Intake for the qualification:*
January only.
- e. *Exclusion and readmission:*
See Chapter 2 of Students' Rules and Regulations.
- f. *Recognition of Prior Learning (RPL), equivalence and status:*
See Chapter 30 of Students' Rules and Regulations.
- g. *Professional registration (as a student):*
Registration with the HPCSA via the Department is compulsory.
- h. *Other requirements:*
Immunisation against Hepatitis B is compulsory. A valid first-aid certificate is required. The University will arrange a first-aid programme in the first year. International students will be assessed by the Department to determine enrolment for this qualification.
- i. *Special qualification rules:*
Special qualification rules apply, and students who register for this qualification will receive the rules with their letter of acceptance. It is the students' own responsibility to familiarise themselves with those rules.
- j. *Registration as a medical orthotist and prosthetist with the HPCSA:*
On meeting the qualification requirements of either the National Diploma: Medical Orthotics and Prosthetics or the Baccalaureus Technologiae: Medical Orthotics and Prosthetics, students have to complete an internship of 12 months at an HPCSA-accredited training centre before they may register with the Council as medical orthotics and prosthetics practitioners. At the end of the internship year students may register as medical orthotists and prosthetists with the HPCSA. The year of internship will be completed under the auspices of HPCSA, and any enquiries in this regard should be addressed to that Council. No students, while registered at TUT are allowed to work in the industry, as prescribed by the HPCSA, unless it forms part of the work-integrated learning.
- k. *Work-Integrated Learning I and II:*
See Chapter 5 of Students' Rules and Regulations.
- l. *Subject credits:*
Subject credits are shown in brackets after each subject.

Key to asterisks:

- * Information does not correspond to information in Report 151.
(Deviations approved by the Senate in May 2009.)

CURRICULUM

FIRST YEAR

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
FIRST SEMESTER			
APK121T	Anatomy, Physiology and Kinesiology I	(0,170)*	
OPS101T	Orthotics and Prosthetics Material Science I	(0,170)*	



PYY111T Psychology I (0,160)*

TOTAL CREDITS FOR THE SEMESTER: 0,500

SECOND SEMESTER

EXP1MOP Work-Integrated Learning I (0,500)

TOTAL CREDITS FOR THE SEMESTER: 0,500

TOTAL CREDITS FOR THE FIRST YEAR: **1,000**

SECOND YEAR

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
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FIRST SEMESTER

APK221T	Anatomy, Physiology and Kinesiology II	(0,100)*	Anatomy, Physiology and Kinesiology I
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OPC101T	Orthotics and Prosthetics Practice I	(0,200)*	
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OTT101T	Orthotics Theory I	(0,100)*	
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PCX101T	Prosthetics Theory I	(0,100)*	
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TOTAL CREDITS FOR THE SEMESTER: 0,500

SECOND SEMESTER

OPC211T	Orthotics and Prosthetics Practice II	(0,200)*	Orthotics and Prosthetics Practice I Orthotics Theory I Prosthetics Theory I
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OPS201T	Orthotics and Prosthetics Material Science II	(0,100)*	Orthotics and Prosthetics Material Science I
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OTT201T	Orthotics Theory II	(0,100)*	Orthotics and Prosthetics Practice I Orthotics Theory I Prosthetics Theory I
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PCX201T	Prosthetics Theory II	(0,100)*	Orthotics and Prosthetics Practice I Prosthetics Theory I
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TOTAL CREDITS FOR THE SEMESTER: 0,500

TOTAL CREDITS FOR THE SECOND YEAR: **1,000**

THIRD YEAR

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
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FIRST SEMESTER

BCO301T	Basic Concepts of Orthopaedics III	(0,100)*	Anatomy, Physiology and Kinesiology II
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OPC311T	Orthotics and Prosthetics Practice III	(0,200)*	Orthotics and Prosthetics Practice II Orthotics Theory II Prosthetics Theory II
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OTT301T	Orthotics Theory III	(0,100)*	Orthotics and Prosthetics Practice II Orthotics Theory II
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PCX301T	Prosthetics Theory III	(0,100)*	Orthotics and Prosthetics Practice II Prosthetics Theory II
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TOTAL CREDITS FOR THE SEMESTER: 0,500



SECOND SEMESTER

EXP2MOP	Work-Integrated Learning II	(0,500)	Orthotics and Prosthetics Practice III Work-Integrated Learning I
TOTAL CREDITS FOR THE SEMESTER:		0,500	
TOTAL CREDITS FOR THE THIRD YEAR:		1,000	
TOTAL CREDITS FOR THE QUALIFICATION:		3,000	

SUBJECT INFORMATION (OVERVIEW OF SYLLABUS)

The syllabus content is subject to change to accommodate industry changes. Please note that a more detailed syllabus is available at the Department or in the study guide that is applicable to a particular subject. On 01 August 2018, the syllabus content was defined as follows:

A

ANATOMY, PHYSIOLOGY AND KINESIOLOGY I (APK121T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)
An introduction to the anatomy, kinesiology and physiology of the muscular system and a complete study of the anatomy of the skeletal, joint and nervous systems that forms the basis in the field of orthotics and prosthetics. (Total tuition time: ± 120 hours)

ANATOMY, PHYSIOLOGY AND KINESIOLOGY II (APK221T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)
A study of the most important skeletal, muscular and vascular systems, as well as the nervous system. (Total tuition time: ± 120 hours)

B

BASIC CONCEPTS OF ORTHOPAEDICS III (BCO301T) 1 X 2-HOUR PAPER
(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)
The most important abnormalities and deformities of the body, as well as pre- and post-operative procedures. (Total tuition time: ± 120 hours)

O

ORTHOTICS AND PROSTHETICS MATERIAL SCIENCE I (OPS101T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)
The different types of materials that can be used in orthotics and prosthetics. (Total tuition time: ± 72 hours)

ORTHOTICS AND PROSTHETICS MATERIAL SCIENCE II (OPS201T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)
The most important materials currently used in practice (e.g. plastic, POP, metals) are covered in detail. (Total tuition time: ± 92 hours)

ORTHOTICS AND PROSTHETICS PRACTICE I (OPC101T) CONTINUOUS ASSESSMENT
(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)
Students will apply their theoretical knowledge to manufacture the different orthoses and prostheses. (Total tuition time: ± 240 hours)

ORTHOTICS AND PROSTHETICS PRACTICE II (OPC211T) CONTINUOUS ASSESSMENT
(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)
Students will apply in practice what they learned in theory in Orthotics II and Prosthetics II. (Total tuition time: ± 240 hours)



ORTHOTICS AND PROSTHETICS PRACTICE III (OPC311T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)**

Splints, braces and upper-limb prostheses are manufactured. (Total tuition time: ± 240 hours)

ORTHOTICS THEORY I (OTT101T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)**

The theory of the manufacturing of lower-limb splints (orthoses) from metal or plastic, and the manufacturing of bow orthoses. (Total tuition time: ± 120 hours)

ORTHOTICS THEORY II (OTT201T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)**

The theory of the manufacturing of long leg callipers, hand and arm splints (orthoses). (Total tuition time: ± 102 hours)

ORTHOTICS THEORY III (OTT301T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)**

Theory of the manufacturing of spinal braces, neck braces, corsets and hernial trusses. (Total tuition time: ± 120 hours)

P**PROSTHETICS THEORY I (PCX101T)****1 X 3-HOUR PAPER****(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)**

Theory of the manufacture of below-knee limbs (prostheses). (Total tuition time: ± 120 hours)

PROSTHETICS THEORY II (PCX201T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)**

Theory of the manufacture of through-knee, above-knee and through-hip prostheses. (Total tuition time: ± 120 hours)

PROSTHETICS THEORY III (PCX301T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)**

Theory of the manufacture of all upper limbs, as well as the treatment of all special cases. (Total tuition time: ± 120 hours)

PSYCHOLOGY I (PYY111T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)**

A basic study of psychology forms part of the curriculum, because patients treated by an orthotist or prosthetist often have psychological problems due to the fact that they have to wear visible support. Emphasis is placed on social development and dealing with personal problems. (Total tuition time: ± 120 hours)

W**WORK-INTEGRATED LEARNING I (EXP1MOP)****WORK-INTEGRATED LEARNING****WORK-INTEGRATED LEARNING II (EXP2MOP)****WORK-INTEGRATED LEARNING****(Subject custodian: Department of Sport, Rehabilitation and Dental Sciences)**

Practical application of theoretical subjects in the first- and second year respectively. (Total tuition time: ± 600 hours)

