

NATIONAL DIPLOMA: VETERINARY TECHNOLOGY

Qualification code: NDVE96 - NQF Level 6

Campus where offered: Arcadia Campus

Please note that this qualification had no new intakes since 2015.

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 C symbol at Standard Grade or an E symbols at Higher Grade for English, Mathematics, Physical Science and Biology or Physiology.

Selection criteria:

- Prospective students will be selected for admission based on their performance in the Senior Certificate (40%), a TUT potential assessment (40%), and an interview (20%) with a departmental selection panel. The weight of each process is given in brackets.
- Further selection for admission for the National Diploma: Veterinary Technology (Extended Curriculum) will be based on potential assessment as well as an interview by a departmental selection panel.

• **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 Mathematics and 3 for Physical Sciences.

Selection criteria:

To be considered for this qualification, applicants must have an Admission Point Score (APS) of at least **19**.

Assessment procedures:

- Applicants with a score of 26 and more will be invited for an interview. The APS will contribute 80% to the final admission score and the interview will contribute 20%.
- Applicants with a score of 19-25 will be invited to do the TUT potential assessment and an interview. The APS will contribute 40% to the final admission score, the TUT potential assessment will contribute 40% and the interview will contribute 20%.

b. *Minimum duration:*
Three years.

c. *Presentation:*
Day classes.

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. *Registration as a veterinary technologist:*
Registration in the first year with the South African Veterinary Council (SAVC) as a veterinary technologist is compulsory. Registration must be renewed each year.
- h. *Professional registration as a veterinary technologist:*
Candidates must register as qualified veterinary technologists (under supervision) on the successful completion of the first three academic years. On the successful completion of the fifth academic year, the candidate must register as a veterinary technologist (independent practice).
- i. *Practicals:*
100% attendance is compulsory for all practical classes. Students must pass the practical component of a subject to obtain admission to sit for the examination.
- j. *Textbooks:*
Textbooks and other educational material will be required.
- k. *Personal protective equipment:*
Specific safety wear is compulsory in the practical laboratories.
- l. *Work-Integrated Learning:*
See Chapter 5 of Students' Rules and Regulations.
- m. *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 2007.)

CURRICULUM

FIRST YEAR

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
FIRST SEMESTER			
CAL101T	Calculations and Statistics	(0,100)	
CHE141C	Chemistry IB	(0,100)	
CSK101B	Computer Skills I	(0,100)	
IVT101T	Introduction to Veterinary Technology*	(0,050)	
PHU161C	Physics IB	(0,100)	
VDA111T	Food Animals Anatomy and Physiology I	(0,050)*	
TOTAL CREDITS FOR THE SEMESTER:		0,500	
SECOND SEMESTER			
BCH221T	Biochemistry II	(0,125)	Chemistry IB
HTL201T	Histology	(0,125)	Food Animals Anatomy and Physiology I
HVS201T	Haematology: Veterinary Science	(0,125)	Food Animals Anatomy and Physiology I
MBI101T	Microbiology I	(0,125)	
TOTAL CREDITS FOR THE SEMESTER:		0,500	
TOTAL CREDITS FOR THE FIRST YEAR:		1,000	



SECOND YEAR

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
FIRST SEMESTER			
BCH311T	Biochemistry III	(0,125)	Biochemistry II
EAT211T	Experimental Animal Technology II	(0,125)	Food Animals Anatomy and Physiology I
IML211T	Immunology II	(0,125)	Food Animals Anatomy and Physiology I Haematology: Veterinary Science
MBI241B	Microbiology II	(0,125)	Microbiology I
TOTAL CREDITS FOR THE SEMESTER:		0,500	
SECOND SEMESTER			
HEM301T	Helminthology III	(0,100)	Microbiology II
PZY301T	Protozoology III	(0,100)	Microbiology II
VIR311T	Virology III	(0,100)	Immunology II
VTE301T	Veterinary Entomology III	(0,100)	Microbiology II
VTM301T	Veterinary Microbiology III	(0,100)	Microbiology II
TOTAL CREDITS FOR THE SEMESTER:		0,500	
TOTAL CREDITS FOR THE SECOND YEAR:		1,000	

THIRD YEAR

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
FIRST SEMESTER			
EXP1VET	Work-Integrated Learning (on completion of all the first- and second-year subjects)	(0,500)	
TOTAL CREDITS FOR THE SEMESTER:		0,500	
SECOND SEMESTER			
AVT201T	Applied Veterinary Technology II	(0,500)	Work-Integrated Learning
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

APPLIED VETERINARY TECHNOLOGY II (AVT201T)

CONTINUOUS ASSESSMENT

(Subject custodian: Department of Biomedical Sciences)

A training programme is drawn up in collaboration with the supervisor at an accredited laboratory. (Total tuition time: six months)

B

BIOCHEMISTRY II (BCH221T)

1 X 3-HOUR PAPER

(Subject custodian: Department of Biomedical Sciences)

Nucleic acids, pH and buffers carbohydrates, amino acids and proteins, enzymes and lipids, DNA replication, transcription and protein synthesis. (Total tuition time: ± 90 hours)

BIOCHEMISTRY III (BCH311T)

1 X 3-HOUR PAPER

(Subject custodian: Department of Biomedical Sciences)

Metabolism of carbohydrates, lipids, proteins and nitrogen-containing compounds. (Total tuition time: ± 90 hours)

C

CALCULATIONS AND STATISTICS (CAL101T)

1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics and Statistics)

General mathematics: algebra, calculations with pocket calculators. Graphs. Reduction of data to linear form. Trigonometry. Statistical calculations: basic descriptive statistics, elementary probabilities, the normal probability division. (Total tuition time: ± 45 hours)

CHEMISTRY IB (CHE141C)

1 X 3-HOUR PAPER

(Subject custodian: Department of Chemistry)

Inorganic chemistry: atoms, molecules, periodic table, mole concept, chemical calculations, chemistry and elements of groups 1A, 4A, 5A, 6A. Organic chemistry: introduction, alkanes, alkenes, aromates, alkanols, phenols, halogen compounds, alkanoates, alkynes, aldehydes, ketones and alkanolic acids. (Total tuition time: ± 90 hours)

COMPUTER SKILLS I (CSK101B)

CONTINUOUS ASSESSMENT

(Subject/Module custodian: End User Computing Unit)

Students have to acquire theoretical knowledge (computing fundamentals) and practical skills as an end-user in operating systems and MS Office Suite applications (MS Word, MS Excel and MS PowerPoint) on an introductory level. Students will do online and computer based tests. The modules are mapped with SAQA and IC3 Essential Skills for Digital Literacy (international certification). (Total tuition time: ± 40 hours)

E

EXPERIMENTAL ANIMAL TECHNOLOGY II (EAT211T)

1 X 3-HOUR PAPER

(Subject custodian: Department of Biomedical Sciences)

Handling, care, husbandry, nutrition, breeding of experimental animals, e.g. mice, rats, guinea-pigs and rabbits, and the prevention of diseases. Design of captivity facilities. Feeding, ventilation and sterilisation systems. Genetics and legislation concerning experimental animals. (Total tuition time: ± 90 hours)

F

FOOD ANIMALS ANATOMY AND PHYSIOLOGY I (VDA111T)

1 X 3-HOUR PAPER

(Subject custodian: Department of Biomedical Sciences)

Microscopic and macroscopic study of all structures and organs in the bodies of food animals, as well as the functioning of these organs and structures. (Total tuition time: ± 90 hours)



H

HAEMATOLOGY: VETERINARY SCIENCE (HVS201T) **1 X 3-HOUR PAPER**
(Subject custodian: *Department of Biomedical Sciences*)

Morphology and functions of erythrocytes, leucocytes and thrombocytes, applicable laboratory tests. Abnormal morphology and functions of blood cells, causes and laboratory findings of anaemias and coagulation defects. (Total tuition time: ± 90 hours)

HELMINTHOLOGY III (HEM301T) **1 X 3-HOUR PAPER**
(Subject custodian: *Department of Biomedical Sciences*)

Identification of parasitic helminths on the grounds of diagnostic characteristics. The life cycle of helminths and prevention and control measures are studied in detail. Recognition and pathology of diseases. Laboratory techniques are introduced. (Total tuition time: ± 90 hours)

HISTOLOGY (HTL201T) **1 X 3-HOUR PAPER**
(Subject custodian: *Department of Biomedical Sciences*)

Fixation, embedding and cutting of tissue. Staining and mounting of histological slide preparations. Preparations are used for diagnosis. Cell structures and basic tissue types. (Total tuition time: ± 90 hours)

I

IMMUNOLOGY II (IML211T) **1 X 3-HOUR PAPER**
(Subject custodian: *Department of Biomedical Sciences*)

Specific and non-specific immunity. Antigens. Classification and characteristics of antibodies. Lymphoid organs of antibody production. Antigen-antibody reactions, including complement, precipitation, phagocytosis and agglutination. Cellular and humoral immunity. Serological techniques. Immunopathology. (Total tuition time: ± 90 hours)

INTRODUCTION TO VETERINARY TECHNOLOGY (IVT101T) **CONTINUOUS ASSESSMENT**
(Subject custodian: *Department of Biomedical Sciences*)

Introduction to laboratory practices, terminology, accreditation and safety in the laboratory. (Total tuition time: ± 60 hours)

M

MICROBIOLOGY I (MBI101T) **1 X 3-HOUR PAPER**
(Subject custodian: *Department of Biotechnology and Food Technology*)

General introduction. Microscopy. Protista, mycota and monera. Eucaryotes, procaryotes and viruses. Microbial nutrition. Growth and culture media. Sterilisation and control of micro-organisms. Aseptic techniques and pure culture techniques. Basic terminology and principles of microbial metabolism. Practical microbiology. (Total tuition time: ± 66 hours)

MICROBIOLOGY II (MBI241B) **1 X 3-HOUR PAPER**
(Subject custodian: *Department of Biomedical Sciences*)

Enrichment culture techniques and long-term preservation of micro-organisms. Advanced composition and structure of prokaryotes. Introduction to the genetics of micro-organisms. Microbial metabolism. Identification of the more important groups of bacteria, using biochemical and serological tests. (Total tuition time: ± 90 hours)

P

PHYSICS IB (PHU161C) **1 X 3-HOUR PAPER**
(Subject custodian: *Department of Physics*)

A general physics qualification with applications in the biological sciences: remedial mathematics, fundamental units, vectors and scalars, kinetics, mechanics, dynamics, momentum, work, energy and power, fluids, temperature and heat, gas laws, waves and sound, optics, electricity, magnetism, radioactivity. Practical: experiments related to the theory. (Total tuition time: ± 90 hours)



PROTOZOLOGY III (PZY301T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Biomedical Sciences)**

Identification of parasitic protozoa and recognition of the diseases they cause in food animals and pets. Diagnostic characteristics, life cycles, pathology, prevention and control. Laboratory techniques are introduced. (Total tuition time: ± 90 hours)

V**VETERINARY ENTOMOLOGY III (VTE301T)****1 X 3-HOUR PAPER****(Subject custodian: Department of Biomedical Sciences)**

Identification of parasitic insects and the recognition of diseases transferred and caused by them. Life cycles of insects and environmental factors that influence those cycles. Prevention and control, as well as chemical control. Acarology (ticks and mites). (Total tuition time: ± 90 hours)

VETERINARY MICROBIOLOGY III (VTM301T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Biomedical Sciences)**

Micro-organisms (bacteria and fungi) that cause veterinary diseases. Emphasis is placed on the isolation and identification of organisms. (Total tuition time: ± 90 hours)

VIROLOGY III (VIR311T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Biomedical Sciences)**

Morphology and structure of viruses. Physical and chemical characteristics. Cytopathology. Distribution and transmission of viruses. Immunisation and chemotherapy. Cultivation of viruses. Immunology. Diagnosis with the aid of serological and biological methods. General epidemiology and pathogenesis. Classification. (Total tuition time: ± 90 hours)

W**WORK-INTEGRATED LEARNING (EXP1VET)****WORK-INTEGRATED LEARNING****(Subject custodian: Department of Biomedical Sciences)**

A training programme is drawn up in collaboration with the supervisor at an accredited laboratory. (Total tuition time: six months)

