

# University of Pretoria Yearbook 2018

## BVSc (08130005)

**Minimum duration of study** 6 years

**Total credits** 948

### Programme information

This programme is accredited with the South African Veterinary Council (SAVC), Royal College of Veterinary Surgeons (RCVS) and the Australasian Veterinary Boards Council (AVBC).

Each student must apply immediately after registration at UP, to the Registrar of the South African Veterinary Council for registration as a student in Veterinary Science. Registration is compulsory and must be renewed annually for the duration of the study.

After the degree has been conferred, graduates are required to register with the South African Veterinary Council as veterinarians before they may practise in South Africa in this capacity.

Also refer to:

UP General Regulations and Rules

<http://www.up.ac.za/yearbooks/rules/content/R02>

Examinations and related matters

<https://www1.up.ac.za/cs/groups/staff/@contrib/documents/document/mdaw/mdm5/~edisp/uppr039909.pdf>

### Admission requirements

- Entry into the BVSc programme is highly competitive due to popularity of the programme and limited available spaces.
- Selection is based on merit. The Faculty does not determine specific selection cut-off values as these are determined by the strength of the applications in a particular year.

- **School-leavers**

A valid NSC/IEB/Cambridge qualification with admission for degree purposes.

Subject requirements and an Admission Point Score (APS) as indicated in the table below. The APS is calculated from the achievement levels obtained in the six 20-credit subjects of the NSC. Life Orientation is excluded when calculating the APS.

Preliminary selection is based on Grade 11 results, and final selection on National Senior Certificate performance in Mathematics, English and Natural Sciences, as well as the Veterinary Value-added Form (VVAf). Additional selection criteria may be used including an interview and a portfolio of evidence, among other things.

- **Applicants with previous higher education exposure**

There is an opportunity for students with previous higher education experience to also apply for the BVSc

programme.

Placement in either the first or second year of the BVSc programme will depend on, among others, merit and subject choices.

### • International students

A small number of international students may be admitted to the programme, including those from neighbouring Southern African Development Community (SADC) countries. Once applicants have been accepted for this programme, they will receive a letter of acceptance from the University, which will facilitate their application for a study permit. A valid study permit, obtained in the country of origin, is a prerequisite for registration.

The National Benchmark Test (NBT) may be required for international applicants.

- Life Orientation is excluded when calculating the APS.

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Minimum requirements												
Achievement level												
English				Mathematics				Physical Science				APS
NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	
5	3	C	C	5	3	C	C	5	3	C	C	32

## Additional requirements

Submission of the Veterinary Value Added Form is not a requirement, but is recommended in order to improve an applicant's chance for selection, since the score obtained contributes 20% towards the final score used for selection.

## Examinations and pass requirements

These rules will only be applicable to modules that fall within the Faculty of Veterinary Science.

### Also refer to UP General Regulations and Rules

- Attendance of all lectures, practicals and clinical duties is compulsory. Any form of absence must be justified by submission of a medical certificate or valid documentation, within three working days after returning. Failure to comply may lead to examination refusal.
- No minimum semester/year mark is required for admission to the examination.
- The semester/year marks and examination mark will count 50% each towards the final mark.
- A student is required to obtain a subminimum of 40% in the examination as well as a final mark of at least 50% to pass a module. A subminimum of 40% in subdivisions of theoretical and/or practical examinations may be required as stipulated by the Dean in consultation with the head of department concerned, and as set out in the study guide.
- A student must pass all the modules of the respective previous year of study in order to be promoted to the subsequent year of study.
- A student who fails a module in year 1,2 or 3, has to repeat all the failed modules for that particular year of study.

A fourth, fifth or final year student who fails a module or modules in a year of study, has to repeat, all the modules for that particular year of study, except modules which were passed with a final mark of at least



65%, for which full exemption is granted.

During the repeat year, exemption from the examination is granted for a module that was passed in the previous year with a final mark of less than 65%; if at least 80% of the practical periods were attended and a year/semester mark of at least 50% was obtained.

Examinations are compulsory in all the modules previously failed, as well as in those modules in which exemption from the examination has not been obtained. If a student fails any of these examinations (or supplementary examination), he or she will be excluded from the programme and will not be permitted to continue.

- vii. The content, format and duration of the supplementary, extra-ordinary, and/or special examination will be similar to that of the examination, except for oral examinations, where the supplementary, extra-ordinary, and/or special examination may be in a different format.
- viii. Students who have obtained a semester/year mark of 65% or more in a particular module may be promoted according to UP's general regulations. Departments will be allowed to use discretion in this regard. The rule will be stated in the study guide of the respected module.
- ix. Examinations are conducted as stipulated in the Faculty Calendar.
- x. A student will not be allowed to repeat the same year of study twice.

### **Exclusion**

Students who have not passed the equivalent off at least 50% of semester modules enrolled for in a particular year of study, including dropped modules will be excluded and will not be allowed to re-register in the next year.

### **Re-admission**

A student who has to discontinue his or her studies or has been excluded may apply in writing to the Faculty Admissions Committee for re-admission.

## **Practical/clinical/internship information**

### **Compulsory Community Service**

After completing the degree a Compulsory Community Service (CCS) year is required by the state. Graduates will be employed for one year of Compulsory Community Service by the national Department of Agriculture, Forestry and Fisheries. More information can be obtained from DAFF.

### **Clinical experience (including practical work)**

Proof of satisfactory completion of prescribed clinical and practical components of the programme as prescribed below must be submitted to the Head: Student Administration of the Faculty, prior to the commencement of the final examinations. Failure to do so may lead to examination refusal.

- In state control of stock diseases and administration: experience at an approved institution as approved by the Dean.
- Practical and clinical experience at the Faculty and at approved private practices as well as other institutions as approved by the Dean.

## **Pass with distinction**

The BVSc degree is conferred with distinction on a student who has obtained a cumulative weighted average of at least 75% over the last three years of study.

# Curriculum: Year 1

Minimum credits: 124

## Fundamental modules

### Academic information management 102 (AIM 102)

**Module credits** 6.00

**Service modules**

Faculty of Education  
Faculty of Economic and Management Sciences  
Faculty of Humanities  
Faculty of Law  
Faculty of Health Sciences  
Faculty of Natural and Agricultural Sciences  
Faculty of Theology and Religion  
Faculty of Veterinary Science

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Separate classes for Afrikaans and English

**Department** Information Science

**Period of presentation** Semester 2

**Module content**

Find, evaluate, process, manage and present information resources for academic purposes using appropriate technology. Apply effective search strategies in different technological environments. Demonstrate the ethical and fair use of information resources. Integrate 21st-century communications into the management of academic information.

### Language and study skills 110 (LST 110)

**Module credits** 6.00

**Service modules**

Faculty of Natural and Agricultural Sciences  
Faculty of Veterinary Science

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Module is presented in English

**Department** Unit for Academic Literacy

**Period of presentation** Semester 1

**Module content**

The module aims to equip students with the ability to cope with the reading and writing demands of scientific disciplines.



## Academic orientation 108 (UPO 108)

<b>Module credits</b>	0.00
<b>Language of tuition</b>	Afrikaans and English are used in one class
<b>Department</b>	Veterinary Science Deans Office
<b>Period of presentation</b>	Year

## Core modules

### Biometry 120 (BME 120)

<b>Module credits</b>	16.00
<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology Faculty of Natural and Agricultural Sciences Faculty of Veterinary Science
<b>Prerequisites</b>	At least 4 (50-59%) in Mathematics in the Grade 12 examination, or at least 50% in both Statistics 113, 123
<b>Contact time</b>	1 practical per week, 4 lectures per week
<b>Language of tuition</b>	Separate classes for Afrikaans and English
<b>Department</b>	Statistics
<b>Period of presentation</b>	Semester 2

#### Module content

Simple statistical analysis: Data collection and analysis: Samples, tabulation, graphical representation, describing location, spread and skewness. Introductory probability and distribution theory. Sampling distributions and the central limit theorem. Statistical inference: Basic principles, estimation and testing in the one- and two-sample cases (parametric and non-parametric). Introduction to experimental design. One- and twoway designs, randomised blocks. Multiple statistical analysis: Bivariate data sets: Curve fitting (linear and non-linear), growth curves. Statistical inference in the simple regression case. Categorical analysis: Testing goodness of fit and contingency tables. Multiple regression and correlation: Fitting and testing of models. Residual analysis. Computer literacy: Use of computer packages in data analysis and report writing.

### Chemistry 151 (CMY 151)

<b>Module credits</b>	16.00
<b>Service modules</b>	Faculty of Health Sciences Faculty of Veterinary Science
<b>Prerequisites</b>	A candidate must have Mathematics for at least 60% and 60% for Physical Sciences.
<b>Contact time</b>	1 practical per week, 4 lectures per week
<b>Language of tuition</b>	Separate classes for Afrikaans and English
<b>Department</b>	Chemistry
<b>Period of presentation</b>	Semester 1



## Module content

Theory: Introduction to general chemistry: Measurement in chemistry, matter and energy, atomic theory and the periodic table, chemical compounds and chemical bonds; quantitative relationships in chemical reactions, states of matter and the kinetic theory; solutions and colloids, acids, bases and ionic compounds, chemical equilibria. Introduction to organic chemistry: Chemical bonding in organic compounds, nature, physical properties and nomenclature of simple organic molecules, isomerism, chemical properties of alkanes and cycloalkanes, alkenes, alcohols, aldehydes and ketones, carboxylic acids and esters, amines and amides, carbohydrates, proteins, and lipids. Practicals.

## Introductory genetics 161 (GTS 161)

**Module credits** 8.00

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Veterinary Science

**Prerequisites** MLB 111 GS

**Contact time** 2 lectures per week, fortnightly practicals

**Language of tuition** Module is presented in English

**Department** Genetics

**Period of presentation** Semester 2

## Module content

Chromosomes and cell division. Principles of Mendelian inheritance: locus and alleles, dominance interactions and epistasis. Probability studies. Sex determination and sex linked traits. Pedigree analysis. Extranuclear inheritance. Genetic linkage and chromosome mapping. Chromosome variation.

## Molecular and cell biology 111 (MLB 111)

**Module credits** 16.00

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Health Sciences  
Faculty of Veterinary Science

**Prerequisites** A candidate who has passed Mathematics with at least 60% in the Grade 12 examination

**Contact time** 1 practical per week, 4 lectures per week

**Language of tuition** Separate classes for Afrikaans and English

**Department** Genetics

**Period of presentation** Semester 1

## Module content

Introductory study of the ultra structure, function and composition of representative cells and cell components. General principles of cell metabolism, molecular genetics, cell growth, cell division and differentiation.



## Medical terminology 180 (MTL 180)

**Module credits** 12.00

**Service modules** Faculty of Health Sciences  
Faculty of Natural and Agricultural Sciences  
Faculty of Veterinary Science

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Afrikaans and English are used in one class

**Department** Ancient and Modern Languages and Cultures

**Period of presentation** Semester 1 and Semester 2

### Module content

The acquisition of a basic medical orientated vocabulary compiled from Latin and Greek stem forms combined with prefixes and suffixes derived from those languages. The manner in which the meanings of medical terms can be determined by analysing the terms into their recognisable meaningful constituent parts, is taught and exercised. The functional use of medical terms in context as practical outcome of terminological application is continually attended to.

## Physics for biology students 131 (PHY 131)

**Module credits** 16.00

**Service modules** Faculty of Education  
Faculty of Health Sciences  
Faculty of Veterinary Science

**Prerequisites** A candidate must have passed Mathematics with at least 60% in the Grade 12 examination

**Contact time** 1 discussion class per week, 1 practical per week, 4 lectures per week

**Language of tuition** Separate classes for Afrikaans and English

**Department** Physics

**Period of presentation** Semester 1

### Module content

Units, vectors, one dimensional kinematics, dynamics, work, equilibrium, sound, liquids, heat, thermodynamic processes, electric potential and capacitance, direct current and alternating current, optics, modern physics, radio activity.

## Veterinary professional life 100 (VPL 100)

**Module credits** 2.00

**Contact time** 2 lectures every fortnight

**Language of tuition** Module is presented in English

**Department** Veterinary Tropical Diseases

**Period of presentation** Year

### Module content

The focus of the five-year programme on veterinary professional life is on professional and competency development. It also aims to contribute to the development of competencies to enable veterinarians to be consummate professionals capable of dealing with the diverse challenges of professional and everyday life. The VPL 100 module specifically aims to expose students to the diversity of opportunities and career paths in the veterinary profession. It also provides a holistic introduction to human-animal interaction from a veterinary perspective, emphasising the role of animal ethics and welfare in veterinary science.

## Mathematics 165 (WTW 165)

**Module credits** 16.00

**Prerequisites** At least 50% for Mathematics in the Grade 12 examination and MGW 112# or 08130005

**Contact time** 1 tutorial per week, 4 lectures per week

**Language of tuition** Module is presented in English

**Department** Mathematics and Applied Mathematics

**Period of presentation** Semester 2

### Module content

\*Students will not be credited for more than one of the following modules for their degree: WTW 134, WTW 165, WTW 114, WTW 158. WTW 165 does not lead to Mathematics at 200 level and is intended for students who require Mathematics at 100 level only. WTW 165 is offered in English in the second semester only to students who have applied in the first semester of the current year for the approximately 65 MBChB, or the 5-6 BChD places becoming available in the second semester and who were therefore enrolled for MGW 112 in the first semester of the current year.

Functions, derivatives, interpretation of the derivative, rules of differentiation, applications of differentiation, integration, interpretation of the definite integral, applications of integration, matrices, solutions of systems of equations. All topics are studied in the context of applications.

## Animal diversity 161 (ZEN 161)

**Module credits** 8.00

**Service modules** Faculty of Education  
Faculty of Veterinary Science

**Prerequisites** MLB 111 GS or TDH

**Contact time** 2 lectures per week, fortnightly practicals

**Language of tuition** Separate classes for Afrikaans and English

**Department** Zoology and Entomology

**Period of presentation** Semester 2



## Module content

Animal classification, phylogeny, organization and terminology. Evolution of the various animal phyla, morphological characteristics and life cycles of parasitic and non-parasitic animals. Structure and function of reproductive, respiratory, excretory, circulatory and digestive systems.



## Curriculum: Year 2

Minimum credits: 142

### Core modules

#### Veterinary comparative anatomy 200 (VCA 200)

Module credits	38.00
Prerequisites	No prerequisites.
Contact time	Semester 1: 9 lectures per week over 14 weeks, Semester 2: 11 lectures per week over 14 weeks
Language of tuition	Module is presented in English
Department	Anatomy and Physiology
Period of presentation	Year

##### Module content

Anatomical terminology, early embryonic development, central and autonomic nervous systems, cutaneous appendages and musculature, thoracic limb, pelvis, pelvic limb and the head of the major domestic species. Basic avian anatomy.

#### Veterinary microbiology 210 (VEM 210)

Module credits	6.00
Prerequisites	No prerequisites.
Contact time	2 discussion classes per day over 4 days, 2 lectures per day over 4 days, 8 discussion classes over 1 day
Language of tuition	Module is presented in English
Department	Veterinary Tropical Diseases
Period of presentation	Semester 1

##### Module content

General introduction to microbiology, bacteriology and mycoplasmaology, pathogenesis of bacterial and mycoplasma infections, rickettsiales and pathogenesis of infection, chlamydiales and pathogenesis of infection, general introduction to fungi and pathogenesis of infection, general introduction to viruses and pathogenesis of infection, laboratory diagnosis of infectious diseases, normal flora of selected organ systems in domestic animals.

#### Veterinary ethology 202 (VET 202)

Module credits	18.00
Service modules	Faculty of Natural and Agricultural Sciences
Prerequisites	No prerequisites.
Contact time	81 lectures over a two week period

**Language of tuition** Module is presented in English

**Department** Production Animal Studies

**Period of presentation** Year

#### Module content

The husbandry of and common procedures performed on key domestic species, behavioral principles of key domestic species, handling skills for key domestic animals, aspects of animal welfare.

### Animal production systems 213 (VET 213)

**Module credits** 8.00

**Service modules** Faculty of Natural and Agricultural Sciences

**Prerequisites** No prerequisites.

**Contact time** 2 blocks with a total of 84 lectures

**Language of tuition** Module is presented in English

**Department** Production Animal Studies

**Period of presentation** Semester 1

#### Module content

Introduction to the concepts of animal production systems in South African production environments. Principles and requirements for extensive, semi-intensive and intensive livestock production with reference to large and small stock, poultry and pigs. Principles of communal farming systems in Southern Africa. Game management systems with reference to conservation and game farming. The role of the human in livestock production systems and sustainable production.

### Veterinary immunology 220 (VIM 220)

**Module credits** 6.00

**Prerequisites** No prerequisites.

**Contact time** 1 seminar, 6 lectures per day over 7 days

**Language of tuition** Module is presented in English

**Department** Veterinary Tropical Diseases

**Period of presentation** Semester 2

#### Module content

Overview of the immune system, structure of antibodies, biosynthesis of immunoglobulins, antigen-receptor interaction, complement, humoral immune response, cellular immune response, selected immunodiagnostic techniques, vaccinology, basic principles of immunity to infectious and parasitic diseases.

### Animal science, breeding and nutrition 223 (VKU 223)

**Module credits** 14.00

**Service modules** Faculty of Natural and Agricultural Sciences

<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 blocks with a total of 120 lectures
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Animal and Wildlife Sciences
<b>Period of presentation</b>	Semester 2

#### Module content

Introduction to adaptation physiology with reference to origin and domestication of farm and companion animals. Livestock species, breed development and diversity. Principles of applied animal breeding, quantitative and qualitative inheritance. Trait classification and factors influencing genetic progress in farm animals. Introduction to animal nutrition with the focus on feed intake, digestibility and metabolism of feeds in both monogastric and ruminant animals. Classification of feedstuffs and the nutritive value in the diet for the different farm animal species. An introduction to applied nutrition and feeding of monogastric and ruminant animals, equine and companion animals.

### Veterinary physiology and histology 200 (VPH 200)

<b>Module credits</b>	33.00
<b>Prerequisites</b>	1st year Physics and Chemistry
<b>Contact time</b>	Semester 1: 8 lectures per week over 14 weeks, Semester 2: 9 lectures per week over 14 weeks
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Anatomy and Physiology
<b>Period of presentation</b>	Year

#### Module content

The light microscope, structure and function of cells and tissues, the endocrine system, the nervous system, the integument, muscle structure and function, haematology, the cardiovascular system, the respiratory system, metabolic pathways and the digestive system, the urinary system, the reproductive system, basic avian physiology and thermoregulation.

### Veterinary professional life 121 (VPL 121)

<b>Module credits</b>	2.00
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Veterinary Tropical Diseases
<b>Period of presentation</b>	Semester 1

#### Module content

The focus of the five-year programme on veterinary professional life is on professional and competency development. It also aims to contribute to the development of competencies to enable veterinarians to be consummate professionals capable of dealing with the diverse challenges of professional and everyday life. The VPL 121 module specifically aims to expose students to the diversity of opportunities and career paths in the veterinary profession



## Veterinary professional life 200 (VPL 200)

<b>Module credits</b>	7.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	9 lectures per day over 4 days
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Veterinary Tropical Diseases
<b>Period of presentation</b>	Year

### Module content

Information management, societal roles and responsibilities of veterinarians, cultural diversity and group skills, leadership, stress management.

## Pasture science 213 (WDE 213)

<b>Module credits</b>	12.00
<b>Service modules</b>	Faculty of Natural and Agricultural Sciences
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 blocks with a total of 60 lectures
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Plant and Soil Sciences
<b>Period of presentation</b>	Semester 1

### Module content

Basic principles of pasture science: the influence of biotic and abiotic factors on the productivity of different strata and components of natural and planted pastures. This will enable the student to understand the management, production, appropriate and optimal utilisation as well as the conservation of these pastures. These principles can be used to ensure sustainable animal production and health.

One large assignment to be completed during recess in addition to lecture time.

## Curriculum: Year 3

Minimum credits: 139

### Core modules

#### General surgery 320 (GNS 320)

<b>Module credits</b>	7.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 practicals, 3 lectures per week over 10 weeks
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Companion Animal Clinical Studies
<b>Period of presentation</b>	Semester 2

##### Module content

General principles of surgery, applicable to all species. Principles of surgical asepsis, disinfection and sterilisation, suture materials and patterns, surgical haemostasis, traumatology, wound healing, wound infection, wound management, small animal bandages and surgical instrumentation.

#### General and organ pathology 300 (GOP 300)

<b>Module credits</b>	30.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	7 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Paraclinical Sciences
<b>Period of presentation</b>	Year

##### Module content

Definitions and common causes of basic lesions in tissues and organs. Pathogenesis of basic lesions including, reversible cell injury, pigmentations, necrosis, apoptosis, circulatory disturbances, inflammation, immunopathology, growth disturbances and neoplasia. Organ pathology (with the emphasis on macroscopic changes and pathogenesis) of the various organ systems of the body.

#### Introductory veterinary diagnostics 300 (IVD 300)

<b>Module credits</b>	24.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 lectures per week, 6 practicals per semester
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Production Animal Studies
<b>Period of presentation</b>	Year

## Module content

Diagnostic focus: Introduction to common diagnostic procedures used in key domestic animals including clinical examination, clinical pathology, pain assessment and sedation in relation to clinical examination, basic epidemiological concepts, basic diagnostic imaging modalities and radiation safety.

Clinical physiology focus: The aim is to explain the pathophysiology of commonly occurring clinical conditions and the attempts by the body to re-establish homeostasis. This section of IVD 300 relies heavily on the VPH 200 module for its foundation.

Veterinary research focus: IVD 300 also include a section on the role of research in veterinary science, literature reviews, research design, the role of laboratory animals in veterinary research and examples of research.

## Veterinary toxicology 300 (TOX 300)

<b>Module credits</b>	14.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Paraclinical Sciences
<b>Period of presentation</b>	Year

## Module content

General principles of veterinary toxicology, with emphasis on the relevant factors and circumstances contributing to poisoning; advanced toxicology with regard to inorganic and organic compounds, fungi, cyanobacteria, plants, rodenticides, zootoxins, etc. Plant poisonings, mycotoxicoses and inorganic and organic poisonings are discussed under the following headings: epidemiology and species affected, description, identification, distribution and poisonous principle (if applicable), mechanism of action, toxicity, clinical signs, pathology (limited to the most important lesions); diagnosis, differential diagnosis, treatment and control of prevention. A pressed plant collection or a poisonous plant collection in digital format has to be submitted.

## Veterinary infectious diseases 300 (VIP 300)

<b>Module credits</b>	14.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 discussion classes per week over 5 weeks, 3 lectures per week over 23 weeks
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Veterinary Tropical Diseases
<b>Period of presentation</b>	Year

## Module content

Veterinary infectious diseases is a module aimed at providing the student with in-depth knowledge of all aspects of diseases of food-producing and companion animals caused by viruses, bacteria, fungi and prions. The module is structured to enable students to discern which infectious diseases of animals are high impact diseases and which are of lesser significance in order of importance. The module covers the morphological and physico-chemical characteristics of the causative organisms and the epidemiology and pathogenesis of the diseases caused by them. Course candidates will also learn how to diagnose these diseases in both the living and dead animal, and the control strategies applicable, including control at the livestock/wildlife/human interface. Finally, course candidates will learn about the socio-economic importance of infectious diseases of animals with special reference to transboundary spread.

## General veterinary pharmacology 300 (VPH 300)

<b>Module credits</b>	14.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Paraclinical Sciences
<b>Period of presentation</b>	Year

## Module content

General principles of pharmaceuticals, pharmacokinetics, pharmacodynamics and pharmacotherapeutics. Regulatory control of veterinary medicines and dispensing requirements. A study of groups of functional, systemic and chemotherapeutic drugs utilised in general veterinary practice with emphasis on their pharmacological effects, general indication, safety and side effects.

## Veterinary professional life 300 (VPL 300)

<b>Module credits</b>	10.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 discussion class per week over 7 weeks, 2 lectures per week over 14 weeks, 2 other contact sessions per week over 14 weeks
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Veterinary Tropical Diseases
<b>Period of presentation</b>	Year



## Module content

This module continues with aspects of leadership and diverse personality types and builds on the framework presented earlier in the modules VPL 120 and VPL 200. The aim is to evaluate personal growth during the preceding two years and formulate personal goals for the next two years. Emotional intelligence (EQ) is included in the module and deals with the core skills of self-awareness, self-management, social awareness and relationship management. The module also deals with communication-, conflict management- and negotiation skills with particular reference to the veterinary profession. The module is concluded with basic concepts of financial skills (personal financial fitness), e.g. budgeting (personal and organisational), balance sheets and financial statements (basic understanding) as a precursor to the teaching of more detailed business management principles in the module VPL 510.

## Veterinary parasitology 300 (VTP 300)

<b>Module credits</b>	22.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	10 practicals, 4 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Veterinary Tropical Diseases
<b>Period of presentation</b>	Year

## Module content

The objective of the module is to provide fundamentals of applied veterinary helminthology, ectoparasitology and protozoology as required by veterinarians. The module covers the life cycles, relevant morphological features, epidemiology and pathogenesis of important parasites of domestic animals. Candidates will also learn how to diagnose infections/infestations and diseases in life and dead animals as well as how to treat and control them. Where applicable, emphasis is also given on zoonotic implications.

## Curriculum: Year 4

Minimum credits: 142

### Core modules

#### Anaesthesiology 420 (ANV 420)

<b>Module credits</b>	8.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 practical per semester, 3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Companion Animal Clinical Studies
<b>Period of presentation</b>	Semester 2

##### Module content

Prepare for safe general anaesthesia; premedication; trachea intubation; induction and maintenance of intravenous and inhalation anaesthesia; recovery from anaesthesia; local anaesthesia and pain management; anaesthetic complications.

#### Clinical pathology 410 (CLP 410)

<b>Module credits</b>	7.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Companion Animal Clinical Studies
<b>Period of presentation</b>	Semester 1

##### Module content

Diagnosis and treatment of anaemia, polycythaemia, leukocyte kinetics, lymphohaemopoietic neoplasia; diagnosis and treatment of haemostatic abnormalities; diagnostic use of serum biochemistry, faecal and blood tests, urinalysis; cytology.

#### Diagnostic imaging 400 (DIM 400)

<b>Module credits</b>	17.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 lectures per week over 14 weeks, 3 lectures per week over 14 weeks, 9 practicals per year
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Companion Animal Clinical Studies
<b>Period of presentation</b>	Year

## Module content

Principles of diagnostic imaging; diagnostic imaging of the abdomen, thorax, head, appendicular system and the vertebral column in dogs and cats; diagnostic imaging of the appendicular system in horses and production animals.

## Diagnostic pathology 400 (DPT 400)

**Module credits** 16.00

**Prerequisites** No prerequisites.

**Contact time** 1 practical per week, 2 lectures per week

**Language of tuition** Module is presented in English

**Department** Paraclinical Sciences

**Period of presentation** Year

## Module content

Planning and conducting necropsies; diagnostic approach to the fatal conditions and diseases of dogs, cats, pigs, poultry and horses.

## Equine medicine and surgery 410 (EQM 410)

**Module credits** 14.00

**Prerequisites** No prerequisites.

**Contact time** 1 practical per semester, 7 lectures per week

**Language of tuition** Module is presented in English

**Department** Companion Animal Clinical Studies

**Period of presentation** Semester 1

## Module content

Lameness: disorders of the front and hind limb; disorders of the spine; fractures and emergencies; muscular disorders; insurance examinations; identification, diagnosis and treatment of important cardiovascular, gastrointestinal, nervous system, urinary, skin, multi-systemic and respiratory disorders/diseases; hydration status and correction of fluid imbalances; the equine neonate: clinical examination, diagnostic tests and selected disorders.

## Porcine health and production 420 (PHP 420)

**Module credits** 5.00

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Module is presented in English

**Department** Production Animal Studies

**Period of presentation** Semester 2

## Module content

The pig industry; breeding and husbandry; nutrition and related disorders; important diseases; biosecurity; miscellaneous conditions.

## Poultry health and production 420 (PLY 420)

<b>Module credits</b>	5.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Production Animal Studies
<b>Period of presentation</b>	Semester 2

## Module content

The poultry industry; breeding and husbandry; nutrition and related disorders; important diseases; biosecurity; miscellaneous conditions; zoonosis.

## Small animal medicine and surgery 410 (SAS 410)

<b>Module credits</b>	21.00
<b>Service modules</b>	Faculty of Natural and Agricultural Sciences
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 practicals per year, 9 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Companion Animal Clinical Studies
<b>Period of presentation</b>	Semester 1

## Module content

Patient assessment; therapeutic and monitoring plans for selected key critical situations; identification, diagnosis and treatment of important cardiovascular, respiratory, kidney, skin, endocrine and eye conditions/diseases; multi-systemic conditions; dentistry; oncology; behaviour-related disorders and treatment, critical care and traumatology in dogs and cats.

## Small animal medicine and surgery 420 (SAS 420)

<b>Module credits</b>	21.00
<b>Service modules</b>	Faculty of Natural and Agricultural Sciences
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 practicals per year, 9 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Companion Animal Clinical Studies
<b>Period of presentation</b>	Semester 2

### Module content

Patient assessment; therapeutic and monitoring plans for selected key critical situations; identification, diagnosis and treatment of important gastrointestinal, liver, pancreas, peritoneal, urogenital, skin, musculoskeletal, nervous system; dentistry in dogs and cats.

### Veterinary professional life 400 (VPL 400)

**Module credits** 11.00

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Module is presented in English

**Department** Veterinary Tropical Diseases

**Period of presentation** Year

### Module content

The veterinarian in context: political roles and responsibilities; collegiality and professional associations; veterinary law and ethics; stressors and stress management.

### Veterinary reproduction 400 (VRP 400)

**Module credits** 17.00

**Prerequisites** No prerequisites.

**Contact time** 2 practicals per week over 10 weeks, 4 lectures per week

**Language of tuition** Module is presented in English

**Department** Production Animal Studies

**Period of presentation** Year

### Module content

The female reproductive cycle; parturition and puerperium; control of reproduction; identification, diagnosis and treatment of important diseases or malfunctions of the female reproductive system; identification, diagnosis and treatment of conditions of the neonate; male reproductive processes; identification, diagnosis and treatment of important diseases or malfunctions of the male reproductive system; venereal diseases in domestic animals; optimisation of breeding; investigation of infertility; the Animal Improvement Act.

## Curriculum: Year 5

Minimum credits: 181

### Core modules

#### Bovine health and production 510 (BHP 510)

<b>Module credits</b>	25.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 practicals per semester, 9 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Production Animal Studies
<b>Period of presentation</b>	Semester 1

##### Module content

The pathophysiology, diagnosis, prognosis, treatment and control of diseases in cattle. Aspects of clinical veterinary science, including components of clinical diagnosis, therapeutics, medicine, surgery and introductory herd health.

#### Diagnostic pathology 510 (DPT 510)

<b>Module credits</b>	9.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 practical per week, 2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Paraclinical Sciences
<b>Period of presentation</b>	Semester 1

##### Module content

Planning and conducting necropsies; diagnostic approach to fatal conditions and diseases of small stock and cattle.

#### Veterinary epidemiology 510 (EPL 510)

<b>Module credits</b>	10.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Production Animal Studies
<b>Period of presentation</b>	Semester 1

## Module content

Topics presented within an evidence-based medicine and clinical decision-making framework: basic concepts of epidemiology and disease transmission, measures of disease in populations, precision and bias, causal inference, measures of association, epidemiological study design, sampling methods, disease outbreak investigation, and principles of diagnostic tests.

## Small stock health and production 510 (SSH 510)

<b>Module credits</b>	25.00
<b>Contact time</b>	1 other contact session per week, 6 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Production Animal Studies
<b>Period of presentation</b>	Semester 1

## Module content

An encompassing approach including case studies, peer instruction and practical group work will enable the student to acquire, understand and apply knowledge regarding small stock production systems. Nutrition, parasite management, disease management, technology and economics will be dealt with.

## Veterinary core practice 601 (VCP 601)

<b>Module credits</b>	53.00
<b>Prerequisites</b>	All modules up to and including the 9th semester of the BVSc curriculum.
<b>Contact time</b>	40 hours per week, Yes
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Companion Animal Clinical Studies
<b>Period of presentation</b>	Semester 2

## Module content

Practical application of the theoretical aspects of small animal, production animal, equine and state veterinary practice covered in the core curriculum of the BVSc programme. Topics include medicine, surgery, reproduction, diagnostic imaging, pathology and clinical pathology, ophthalmology, dentistry and anaesthesiology of cats, dogs, cattle, small stock and horses, herd/flock health, epidemiology, economics, drug regulations, certification, animal health- and import/export regulations, veterinary public health, veterinary business management and veterinary professional life skills. The emphasis of practical exposure will be on attaining of the Day One Competencies for graduating veterinary professionals.

## Veterinary elective practice 601 (VEP 601)

<b>Module credits</b>	28.00
<b>Contact time</b>	40 hours per week over 7 weeks, Yes
<b>Language of tuition</b>	Module is presented in English

**Department** Production Animal Studies

**Period of presentation** Semester 2

### Module content

The purpose of this module is to give students additional exposure in a practice area of interest. The aim is to provide the graduate with theoretical and practical exposure to strengthen Day 1 competencies in those components of veterinary science needed for him/her to enter the particular career path with confidence. The scope of the module is expansion, integration and practical application of knowledge established through the core component of the BVSc programme. Students will complete one of the following six practice areas: Small Animal and Exotic Practice, Rural and Wildlife Practice, Veterinary Public Health and State Veterinary Practice, Equine Practice, Intensive Animal Production Practice, and Veterinary Research Career.

## One health 510 (VOH 510)

**Module credits** 7.00

**Contact time** 2 lectures per week

**Language of tuition** Module is presented in English

**Department** Veterinary Tropical Diseases

**Period of presentation** Semester 1

### Module content

Introduction to the One Health concept; emerging and endemic infectious diseases at human/animal interfaces; veterinary issues at human/wildlife interfaces in southern Africa; One Health approaches at human/animal/ecosystem interfaces; animal health, conservation and rural development at interfaces in southern Africa; communication and collaboration between multiple disciplines.

## Veterinary public health 510 (VPH 510)

**Module credits** 14.00

**Contact time** 6 lectures per week

**Language of tuition** Module is presented in English

**Department** Paraclinical Sciences

**Period of presentation** Semester 1

### Module content

The role of the veterinary surgeon in veterinary public health. Veterinary food hygiene and nutrition-related diseases of importance regarding food of animal origin. Meat and milk hygiene; all necessary measures, including legislation, to ensure that food of animal origin is safe, sound and wholesome at all stages of production and manufacture, up to the consumer. Veterinary aspects of environmental health. Zoonosis in veterinary science. Introduction of the use of laboratory animals in biomedical research and relevant aspects relating to animal welfare. Introduction to the social aspects of the human-animal interaction by protecting and promoting human health in communities, veterinary extension and risk communication.



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## Veterinary business management 510 (VPL 510)

<b>Module credits</b>	10.00
<b>Contact time</b>	3 lectures per week, 9 other contact sessions
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Veterinary Tropical Diseases
<b>Period of presentation</b>	Semester 1

### Module content

This module will deal with business management including basic financial reporting and development of a business plan. Marketing, promotion and sales will be studied in terms of marketing oneself and one's business. Human resources management will be approached from the perspective of staff recruitment and retention, work place discipline, as well as recognition and rewards for good work performance and application of the Labour Law in the work place. The module will be concluded with strategic client service and management that will focus on client satisfaction and dissatisfaction, approaches to deal with different categories of clients and compassion fatigue and its components.

## Curriculum: Final year

**Minimum credits: 159**

### Core modules

#### Veterinary core practice 602 (VCP 602)

**Module credits** 53.00

**Prerequisites** All modules up to and including the 9th semester of the BVSc curriculum.

**Contact time** 40 hours per week, Yes

**Language of tuition** Module is presented in English

**Department** Companion Animal Clinical Studies

**Period of presentation** Semester 1

##### Module content

Practical application of the theoretical aspects of small animal, production animal, equine and state veterinary practice covered in the core curriculum of the BVSc programme. Topics include medicine, surgery, reproduction, diagnostic imaging, pathology and clinical pathology, ophthalmology, dentistry and anaesthesiology of cats, dogs, cattle, small stock and horses, herd/flock health, epidemiology, economics, drug regulations, certification, animal health- and import/export regulations, veterinary public health, veterinary business management and veterinary professional life skills. The emphasis of practical exposure will be on attaining of the Day One Competencies for graduating veterinary professionals.

#### Veterinary core practice 603 (VCP 603)

**Module credits** 54.00

**Prerequisites** All modules up to and including the 9th semester of the BVSc curriculum.

**Contact time** 40 hours per week, Yes

**Language of tuition** Module is presented in English

**Department** Companion Animal Clinical Studies

**Period of presentation** Semester 2

##### Module content

Practical application of the theoretical aspects of small animal, production animal, equine and state veterinary practice covered in the core curriculum of the BVSc programme. Topics include medicine, surgery, reproduction, diagnostic imaging, pathology and clinical pathology, ophthalmology, dentistry and anaesthesiology of cats, dogs, cattle, small stock and horses, herd/flock health, epidemiology, economics, drug regulations, certification, animal health- and import/export regulations, veterinary public health, veterinary business management and veterinary professional life skills. The emphasis of practical exposure will be on attaining of the Day One Competencies for graduating veterinary professionals.

#### Veterinary elective practice 602 (VEP 602)

**Module credits** 28.00

**Contact time** 40 hours per week over 7 weeks, Yes

**Language of tuition** Module is presented in English

**Department** Production Animal Studies

**Period of presentation** Semester 1

#### Module content

The purpose of this module is to give students additional exposure in a practice area of interest. The aim is to provide the graduate with theoretical and practical exposure to strengthen Day 1 competencies in those components of veterinary science needed for him/her to enter the particular career path with confidence. The scope of the module is expansion, integration and practical application of knowledge established through the core component of the BVSc programme. Students will complete one of the following six practice areas: Small Animal and Exotic Practice, Rural and Wildlife Practice, Veterinary Public Health and State Veterinary Practice, Equine Practice, Intensive Animal Production Practice, and Veterinary Research Career.

### Veterinary elective practice 603 (VEP 603)

**Module credits** 24.00

**Contact time** 40 hours per week over 6 weeks, Yes

**Language of tuition** Module is presented in English

**Department** Production Animal Studies

**Period of presentation** Semester 2

#### Module content

The purpose of this module is to give students additional exposure in a practice area of interest. The aim is to provide the graduate with theoretical and practical exposure to strengthen Day 1 competencies in those components of veterinary science needed for him/her to enter the particular career path with confidence. The scope of the module is expansion, integration and practical application of knowledge established through the core component of the BVSc programme. Students will complete one of the following six practice areas: Small Animal and Exotic Practice, Rural and Wildlife Practice, Veterinary Public Health and State Veterinary Practice, Equine Practice, Intensive Animal Production Practice, and Veterinary Research Career.

The information published here is subject to change and may be amended after the publication of this information. The [General Regulations \(G Regulations\)](#) apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the [General Rules](#) section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.