University of Pretoria Yearbook 2020

BVSc (08130005)

Minimum duration of study	6 years
Total credits	833
NQF level	08

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.

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, Land Reform and Rural Development (DALRRD). More information can be obtained from DALRRD.

Also refer to the General Regulations and Rules.

Admission requirements

- Entry into the BVSc programme is highly competitive due to popularity of the programme and limited available spaces.
- Selection is based on academic 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 the required Admission Point Score (APS) as indicated in the table below. The APS is calculated from the achievement levels obtained in six 20-credit NSC subjects.

  Life Orientation is excluded when calculating the APS.

  Conditional admission is based on Grade 11 final examination results, and final admission on the NSC/IEB performance in Mathematics, English and Physical Science, as well as the Veterinary Value Added Form (VSVAF).

  Additional admission criteria may be used including an interview and additional selection tests.

  School-leaving applicants who are conditionally admitted based on their Grade 11 results will forfeit their placement if their NSC APS is more than 2 points lower than the Grade 11 APS used for conditional admission.

- **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.

  Applicants who are accepted receive a letter of confirmation 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 from international applicants. (www.nbt.ac.za)

  International applicants must comply with all UP's and the Department of Home Affairs' regulations related to international students.

Minimum requirements						
Achievement level						
English Home Language or English First Additional Language		**Mathematics**		**Physical Science**		**APS**
NSC/IEB	AS Level	NSC/IEB	AS Level	NSC/IEB	AS Level	
5	C	5	C	5	C	**35**

* Cambridge A level candidates who obtained at least a D in the required subjects, will be considered for admission. International Baccalaureate (IB) HL candidates who obtained at least a 4 in the required subjects, will be considered for admission.

Additional requirements

Refer to the undergraduate admission regulation of the Faculty of Veterinary Science.

Examinations and pass requirements

The following rules apply to undergraduate programmes in the faculty, with the exception of pass requirements of service modules presented by other faculties:

Also refer to UP General Regulations and Rules

i. Attendance of all lectures, practicals and clinical duties is compulsory. 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.
ii. Students in all undergraduate programmes in the faculty must register for all modules in a particular year of study and may not deregister modules.

iii. A student who fails one or more modules fails the particular year of study and must repeat the failed module(s) before being promoted to the next year of study.
iv. In addition to clause iii., a fourth, fifth or final year student in the BVSc programme or a second year student in the BVetNurs programme who fails a module or modules, has to repeat, all the modules for that particular year of study, except modules which were passed with a final mark of 65% or more, for which full exemption is granted during the repeat year.
v. For students repeating the fourth, fifth or sixth year of the BVSc programme, or the second year of the BVetNurs programme, exemption from the examination is granted for a module that was passed in the previous (failed) year if all lectures, practicals and/or clinical duties were attended and a year/semester mark of at least 50% was obtained in the repeat year.
vi. The semester/year mark and examination mark contributes 50% each towards the final mark for all modules with examinations.
vii. A student is required to obtain a minimum semester/year mark of 40%, a minimum 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.
viii. 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.
ix. Semester tests and examinations are conducted as stipulated in the Faculty Calendar.
x. A student applies for admission to an extra-ordinary assessment using the Faculty's relevant standard operating procedure which is managed by student administration.

Exclusion

xi. A student who is not permitted to re-register in terms of UP General Regulation G3.2 a) and b) is automatically excluded at the end of the academic year.
xii. A student who fails a particular year of study for the second time is automatically excluded.

Re-admission and dismissal

xiii. A student who has been excluded may apply online by the specified deadline to the Faculty Appeals Committee for consideration for re-admission, failing which the student is dismissed.
xiv. The Faculty Appeals Committee has discretion to either readmit an excluded student, or to deny the appeal, in which case the student is dismissed.

Practical/clinical/internship information

Clinical experience (including practical work)
Proof of satisfactory completion of prescribed clinical and practical components of the programme as prescribed in the relevant study guide(s) must be submitted to the relevant Head of Department : prior to the commencement of the examinations. Failure to do so may lead to examination refusal.

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. The cumulative weighted average is calculated as the average score of the weighted averages per year of the last 3 academic years as indicated on a student's academic

record.

Curriculum: Year 1

Minimum credits: 122

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	Module is presented in 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)

Module credits	0.00
Prerequisites	No prerequisites.
Language of tuition	Module is presented in English
Department	Veterinary Science Deans Office
Period of presentation	Year

Core modules

Biometry 120 (BME 120)

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

Module credits	16.00
Service modules	Faculty of Health Sciences Faculty of Veterinary Science
Prerequisites	A candidate must have Mathematics for at least 60% and 60% for Physical Sciences.
Contact time	1 practical per week, 4 lectures per week
Language of tuition	Module is presented in English
Department	Chemistry

Period of presentation	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 tutorials
Language of tuition	Module is presented in English
Department	Biochemistry, Genetics and Microbiology
Period of presentation	Semester 2

Module content

Chromosomes and cell division. Principles of Mendelian inheritance: locus and alleles, dominance interactions, extensions and modifications of basic principles.. Probability studies. Sex determination and sex linked traits. Pedigree analysis. 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/tutorial per week, 4 lectures per week
Language of tuition	Module is presented in English
Department	Biochemistry, Genetics and Microbiology
Period of presentation	Semester 1

Module content
Introduction to the molecular structure and function of the cell. Basic chemistry of the cell. Structure and composition of prokaryotic and eukaryotic cells. Ultrastructure and function of cellular organelles, membranes and the cytoskeleton. General principles of energy, enzymes and cell metabolism. Selected processes, e.g. glycolysis, respiration and/or photosynthesis. Introduction to molecular genetics: DNA structure and replication, transcription, translation. Cell growth and cell division.

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	Module is presented in English
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	Module is presented in 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 101 (VPL 101)

Module credits	4.00
Prerequisites	No prerequisites.
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 five-year programme on veterinary professional life contributes to the development of life skills to enable veterinarians to be consummate professionals capable of dealing with the diverse challenges of professional and everyday life. The VPL 101 module provides an introduction to human-animal relationships in general and animal ethics and welfare in particular. Aspects of communication, leadership, business skills and transformation are introduced.

Mathematics 165 (WTW 165)

Module credits	16.00
Service modules	Faculty of Engineering, Built Environment and Information Technology Faculty of Education Faculty of Economic and Management Sciences Faculty of Veterinary Science
Prerequisites	50% for Mathematics in Grade 12 and MGW 112# or registered for BVSc
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	No prerequisites.
Contact time	2 lectures per week, fortnightly practicals
Language of tuition	Module is presented in English
Department	Zoology and Entomology
Period of presentation	Semester 2

Module content

Animal classification, phylogeny organisation 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 in various animal phyla. In-class discussion will address the sustainable development goals #3, 12, 13, 14 and 15 (Good Health and Well-being. Responsible Consumption and Production, Climate Action, Life Below Water, Life on Land).

Curriculum: Year 2

Minimum credits: 144

Core modules

Animal production systems and principles of breeding 200 (VAP 200)

Module credits	8.00
Prerequisites	No prerequisites.
Contact time	3 lectures per week over 22 weeks, 4 practicals per year
Language of tuition	Module is presented in English
Department	Production Animal Studies
Period of presentation	Year

Module content

Introduction to the role and concepts of animal production systems in the South African food production economy. Evolution, domestication and breed development. Animal recording, trait classification and the concept of functional efficiency. Qualitative and quantitative breeding principles with specific reference to selection of farm animal species. Principles of communal farming systems in Southern Africa. Principles requirements and production indices for extensive, semi-intensive and intensive animal production systems with reference to dairy, beef, mutton, wool, mohair, poultry meat, egg, pork and venison production. Game management systems with reference to conservation and game farming. The role of the human in livestock production systems and sustainable production. The module contains practical sessions in farm animal management on a rotational basis including after-hours, weekends, public holidays and university recess.

Veterinary comparative anatomy 201 (VCA 201)

Module credits	28.00
Prerequisites	No prerequisites.
Contact time	21 dissection practicals per week over 3 weeks S1, 21 dissection practicals per week over 3 weeks S2, 6 lectures per week over 3 weeks S1, 6 lectures per week over 3 weeks S2
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, head, thoracic limb, trunk, pelvis and pelvic limb anatomy of the canine with clinically relevant comparisons to the feline, equine, bovine, ovine and porcine, as well as some wildlife 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 mycoplasmology, pathogenesis of bacterial and mycoplasmal 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	20 practicals, 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.

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.

Principles of animal nutrition 224 (VKU 224)

Module credits	12.00
Prerequisites	No prerequisites.
Contact time	6 lectures per week over 10 weeks
Language of tuition	Module is presented in English
Department	Animal and Wildlife Sciences
Period of presentation	Semester 2

Module content

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)

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

Module credits	2.00
Language of tuition	Module is presented in English
Department	Veterinary Tropical Diseases
Period of presentation	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 201 (VPL 201)

Module credits	5.00
Prerequisites	VPL 101, or simultaneous registration for VPL 122.
Contact time	1 day excursion, 16 hours per semester
Language of tuition	Module is presented in English
Department	Veterinary Tropical Diseases
Period of presentation	Year

Module content

This module focuses on developing a range of life skills, including personal wellness, self-awareness, group and veterinary communication skills. The topics of cultural diversity and transformation are utilised to gain a deeper understanding of the wide range of people with whom veterinarians interact professionally. Personal financial fitness skills are developed as an introduction to later studies in practice management skills.

Pasture science 213 (WDE 213)

Module credits	12.00
Service modules	Faculty of Natural and Agricultural Sciences
Prerequisites	No prerequisites.
Contact time	2 blocks with a total of 60 lectures
Language of tuition	Module is presented in English
Department	Department of Plant and Soil Sciences
Period of presentation	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: 135

Core modules

General surgery 320 (GNS 320)

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

Module credits	30.00
Prerequisites	No prerequisites.
Contact time	2 discussion classes per week over 25 weeks, 6 demonstration sessions of 40 minutes, 6 lectures per week over 25 weeks
Language of tuition	Module is presented in English
Department	Paraclinical Sciences
Period of presentation	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 selected conditions of the various organ systems of the body.

Introductory veterinary diagnostics 300 (IVD 300)

Module credits	20.00
Prerequisites	No prerequisites.
Contact time	3 lectures per week, 6 practicals per semester
Language of tuition	Module is presented in English
Department	Production Animal Studies
Period of presentation	Year

Module content

The module introduces the student to clinical diagnostics in the normal animal patient, and evidence-based approaches of veterinary science. It consists of 3 integrated content components being the diagnostic focus, the clinical physiology focus and the research focus. The evidence-based approach acts as the integration of the clinical physiology and research focus areas, and is presented using group assignments where students have to critically appraise and interpret research papers using their knowledge of normal and abnormal physiological processes or clinical findings.

Veterinary toxicology 300 (TOX 300)

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

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

Ethnoveterinary medicine 310 (VME 310)

Module credits	3.00
Prerequisites	No prerequisites.
Contact time	1 lecture per week
Language of tuition	Module is presented in English
Department	Paraclinical Sciences
Period of presentation	Semester 1

Module content

Principles of ethnoveterinary knowledge comprising indigenous, plant-based approaches to animal health and wellbeing; association of plant secondary metabolites with biological activity and toxicity; interaction of ethnoveterinary medicine with orthodox veterinary care; community benefits of ethnoveterinary medicine.

General veterinary pharmacology 300 (VPH 300)

Module credits	14.00
Prerequisites	No prerequisites.
Contact time	3 lectures per week
Language of tuition	Module is presented in English
Department	Paraclinical Sciences
Period of presentation	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 301 (VPL 301)

Module credits	6.00
Prerequisites	VPL 201.

Contact time	1 discussion class per week, 1 lecture per week, 1 other contact session per week over 14 weeks
Language of tuition	Module is presented in English
Department	Veterinary Tropical Diseases
Period of presentation	Year

Module content

This module continues with aspects of cultural diversity, wellness and teamwork. Veterinary communication skills are further developed within the context of the veterinary practice and the community setting,. The skills learnt in this and previous modules are applied practically in a group assignment involving a community engagement project, which also provides a practical introduction to basic research skills

Veterinary parasitology 300 (VTP 300)

Module credits	20.00
Prerequisites	No prerequisites.
Contact time	10 practicals per week over 25 weeks, 4 lectures per week over 25 weeks
Language of tuition	Module is presented in English
Department	Veterinary Tropical Diseases
Period of presentation	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)

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

Module credits	7.00
Prerequisites	No prerequisites.
Contact time	3 lectures per week
Language of tuition	Module is presented in English
Department	Companion Animal Clinical Studies
Period of presentation	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)

Module credits	16.00
Prerequisites	No prerequisites.
Contact time	2 lectures per week over 14 weeks, 3 lectures per week over 14 weeks, 9 practicals per year
Language of tuition	Module is presented in English
Department	Companion Animal Clinical Studies
Period of presentation	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 401 (DPT 401)

Module credits	12.00
Prerequisites	No prerequisites.
Contact time	2 lectures per week over 25 weeks, 21 practicals
Language of tuition	Module is presented in English
Department	Paraclinical Sciences
Period of presentation	Year

Module content

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

Veterinary epidemiology 420 (EPL 420)

Module credits	10.00
Prerequisites	No prerequisites.
Contact time	14 lectures, 7 practical sessions per semester, 7 sessions per semester
Language of tuition	Module is presented in English
Department	Production Animal Studies
Period of presentation	Semester 2

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.

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.

Small animal medicine and surgery 410 (SAS 410)

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

Module credits	21.00
Service modules	Faculty of Natural and Agricultural Sciences
Prerequisites	No prerequisites.
Contact time	2 practicals per year, 9 lectures per week
Language of tuition	Module is presented in English
Department	Companion Animal Clinical Studies
Period of presentation	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 401 (VPL 401)

Module credits	7.00
Prerequisites	VPL 301.

Contact time	1 discussion class per week over 9 weeks, 1 lecture per week over 7 weeks, 9 other contact sessions for 1 week
Language of tuition	Module is presented in English
Department	Veterinary Tropical Diseases
Period of presentation	Year

Module content

Case studies are utilised to introduce students to veterinary law and ethics, professional associations, the veterinary team and collegiality. Personal and professional wellness is addressed within these contexts and veterinary communication skills are further developed, including conflict management and negotiation skills. The integration of clinical and communication skills is introduced.

Veterinary reproduction 400 (VRP 400)

Module credits	16.00
Prerequisites	No prerequisites.
Contact time	10 practicals per week (26 week period), 3 lectures per week over 26 weeks
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.

Curriculum: Year 5

Minimum credits: 181

Core modules

Diagnostic pathology 511 (DPT 511)

Module credits	12.00
Prerequisites	No prerequisites.
Contact time	14 practicals, 28 lectures
Language of tuition	Module is presented in English
Department	Paraclinical Sciences
Period of presentation	Semester 1

Module content

Planning and conducting necropsies; diagnostic approach to fatal conditions and diseases of pigs, poultry, small stock, cattle and selected wildlife species.

Porcine health and production 510 (PHP 510)

Module credits	5.00
Prerequisites	No prerequisites.
Contact time	26 lectures
Language of tuition	Module is presented in English
Department	Production Animal Studies
Period of presentation	Semester 1

Module content

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

Poultry health and production 510 (PLY 510)

Module credits	5.00
Contact time	26 lectures
Language of tuition	Module is presented in English
Department	Production Animal Studies
Period of presentation	Semester 1

Module content

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

Ruminant medicine and surgery 510 (RUM 510)

Module credits	24.00
Prerequisites	No prerequisites.
Contact time	3 practicals per semester, 7 lectures per week
Language of tuition	Module is presented in English
Department	Production Animal Studies
Period of presentation	Semester 1

Module content

An integrated course that covers clinical and other aspects of diseases, conditions and syndromes of ruminants (cattle and small stock) organised in an organ system approach. The module includes an action learning project that requires attendance after hours, during weekends, public holidays and university recess.

Ruminant production medicine and herd health 511 (RUM 511)

Module credits	16.00
Prerequisites	No prerequisites.
Contact time	5 lectures per week
Language of tuition	Module is presented in English
Department	Production Animal Studies
Period of presentation	Semester 1

Module content

Theoretical training in the herd or flock approach to health and production management of small scale ruminant systems, commercial dairy, beef, wool, mutton and mohair production systems, emphasising monitoring, prevention, outbreak management, technology and economics.

Veterinary core practice 520 (VCP 520)

Module credits	52.00
Prerequisites	All modules up to and including the 9th semester of the BVSc curriculum.
Contact time	40 hours per week over 13 weeks
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 520 (VEP 520)

Module credits	8.00
Prerequisites	All modules up to and including the 9th semester of the BVSc curriculum.
Contact time	40 hours per week over 4 weeks
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.

One health 510 (VOH 510)

Module credits	4.00
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.

Veterinary business management 510 (VPL 510)

Module credits	10.00
Language of tuition	Module is presented in English
Department	Veterinary Tropical Diseases
Period of presentation	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.

Veterinary research report 520 (VRE 520)

Module credits	8.00
Prerequisites	No prerequisites.
Contact time	2 lectures per week, 2 weeks of research
Language of tuition	Module is presented in English
Department	Veterinary Tropical Diseases
Period of presentation	Year

Module content

The module provides students with the opportunity to integrate and apply research skills relevant to veterinary science such as literature evaluation, experimental design, data handling, evidence-based veterinary medicine and scientific communication in the form of a structured research report. Supervision is shared amongst all academic staff members of the Faculty of Veterinary Science.

African wildlife management and conservation 510 (WMC 510)

Module credits	5.00
Prerequisites	No prerequisites.
Contact time	10 discussion classes, 20 lectures
Language of tuition	Module is presented in English
Department	Production Animal Studies
Period of presentation	Semester 1

Module content

Wildlife management; principles of capture; selected viral, bacterial, protozoal, ecto- and endoparasitic and nutritional diseases of wildlife; legislation pertaining to wildlife; conservation of iconic species of wildlife.

Curriculum: Final year

Minimum credits: 159

Core modules

Veterinary core practice 610 (VCP 610)

Module credits	52.00
Prerequisites	VCP 520
Contact time	40 hours per week over 13 weeks
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 620 (VCP 620)

Module credits	52.00
Prerequisites	VCP 610
Contact time	40 hours per week over 13 weeks
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 610 (VEP 610)

Module credits	24.00

Prerequisites	VEP 520
Contact time	40 hours per week over 5 weeks
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 620 (VEP 620)

Module credits	16.00
Prerequisites	VEP 610
Contact time	40 hours per week over 4 weeks
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.

Veterinary research report 600 (VRE 600)

Module credits	16.00
Prerequisites	All modules up to and including the 9th semester of the BVSc curriculum.
Contact time	1 hour contact session (x3), 6 weeks of guided self-study
Language of tuition	Module is presented in English
Department	Veterinary Tropical Diseases
Period of presentation	Year

Module content
The module provides students with the opportunity to integrate and apply research skills relevant to veterinary science such as literature evaluation, experimental design, data handling, evidence-based veterinary medicine and scientific communication in the form of a structured research report. Supervision is shared amongst all academic staff members of the Faculty of Veterinary Science.

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.