

University of Pretoria Yearbook 2016

MVeterinary Medicine Pharmacology (08251131)

Duration of study 2 years

Total credits 550

Programme information

This programme is offered by the Department of Paraclinical Sciences.

Attendance requirements

- i. Unless stipulated otherwise, the Dean must be satisfied that the candidates will have sufficient access to appropriate facilities and, where necessary, supervision by an appropriate person to complete the work required for the degree at a satisfactory level.
- ii. Attendance requirements are determined in each individual case by the head of department concerned.
- iii. Candidates will be required to keep a logbook or similar record of experiential training which is to be signed by the supervisor every 6 months. The logbook or other suitable record is to be made available for auditing when the specialist module is monitored by the South African Veterinary Council.

The master's degree in Veterinary Medicine is a professional degree and equips the student with a broad scientific background in the theoretical and practical aspects of the chosen field of study.

The MMedVet degree may entitle the holder to registration as a specialist with the South African Veterinary Council together with other requirements as determined by Council. Candidates are encouraged to review current Council guidelines on specialist registration.

Students are required to confirm whether a module will be presented in any particular year. This enquiry should be directed to the relevant head of department.

Also consult the UP General Regulations

Admission requirements

Subject to the stipulations of the applicable General Regulations, a candidate must be in possession of the BVSc or an equivalent degree. In certain cases, the head of department under which a specific field of study for the MMedVet falls, may require that a candidate first obtains a BVScHons degree with modules applicable to the particular MMedVet degree programme. Please note the prerequisites listed under certain programmes. A minimum of 60% in each module may be required before a student may commence studies for the MMedVet degree.

Additional requirements

Candidates are required to be qualified veterinarians registered with the South African Veterinary Council or authorized by the South African Veterinary Council and to work in the field of specialization under supervision of an approved supervisor for the required duration at a facility approved for this purpose.

The number of students that can be admitted to the MMedVet degree programme annually depends on the training capacity of a department, the number of specialists appointed and the number of available posts.

Examinations and pass requirements

Also consult the applicable General Regulations.

- i. The examination(s) in the specialist field of study may only be taken from the end of the second year of study onwards.
- ii. The nature and duration of the specialist module's examination(s), which will test fully the theoretical knowledge as well as the practical skills of the student, is determined by the head of department in which the chosen field of study is offered.
- iii. A minimum examination mark of 50% is required in each of the theoretical and practical and oral sections of the specialist module.
- iv. Students who intend applying for membership of a specialist college abroad later on, should bear in mind that many of these colleges require a final mark of at least 60% for admission.

Research information

Mini-dissertation

Also consult the General Regulations.

- i. A student must submit a mini-dissertation, which deals with the particular field of specialization.
- ii. A mini-dissertation is based on a research project or related research projects (which need not be original), planned and written down by the student within the theme of the chosen specialization. (Assistance with statistical processing, applied specialised procedures, etc. is allowed, but must be acknowledged.) The student may use appropriate research done previously, to add to the writing of the mini-dissertation.

Earlier, related publications by the student may be bound with the mini-dissertation, but may not substitute the complete text of the mini-dissertation. Publications that are submitted, must be rounded off by means of an extensive introduction, materials, and information concerning methods and a discussion of the results. The mini-dissertation will be evaluated by an external examiner, who may not necessarily attend the final examination.

- iii. The average of the separate marks awarded by all the examiners, constitutes the final mark for the mini-dissertation. The minimum pass mark is 50%. A student who has failed may be permitted by the Dean, on the recommendation of the head of department concerned, to submit an amended mini-dissertation for final adjudication.

Pass with distinction

In order to obtain the degree with distinction, a minimum final mark of 75% is required for the field of specialization and the mini-dissertation.

Curriculum: Year 1

Core modules

Pharmacology 800 (FAK 800)

Module credits	344.00
Prerequisites	No prerequisites.
Language of tuition	English
Academic organisation	Paraclinical Sciences
Period of presentation	Year

Module content

Advanced theoretical, practical and experiential training in clinical or industrial pharmacology.

Advanced fundamentals of pharmacology 876 (FAK 876)

Module credits	30.00
Prerequisites	No prerequisites.
Language of tuition	English
Academic organisation	Paraclinical Sciences
Period of presentation	Year

Module content

Scope and historical development of veterinary pharmacology.
Veterinary pharmaceuticals and formulation theory.
Pharmacokinetic theory, pharmacokinetic analysis and modelling.
Bioequivalence theory and evaluation.
Physicochemical and molecular basis of drug action.
Dose response and calculation of dose response parameters.
Pharmacological modulation of organ and body functions.
Molecular basis of action and pharmacological effects of chemotherapeutic agents.
Adverse drug reactions, interactions and pharmacovigilance.
Comparative species pharmacology, pharmacogenomics and pharmacogenetics.
Background on complementary medicines.
Fundamentals of pharmacological research.

Mini-dissertation: Pharmacology 895 (FAK 895)

Module credits	126.00
Prerequisites	No prerequisites.
Language of tuition	English
Academic organisation	Paraclinical Sciences

Period of presentation Year

Research methodology 812 (VRM 812)

Module credits 9.00

Language of tuition English

Academic organisation Vet Sc Dean's Office

Period of presentation Semester 1 and Semester 2

Module content

A web-based introductory module in research methodology that includes planning and undertaking a research project or clinical trial, collecting and analysing data, scientific writing, and enabling preparation and presenting of a research protocol.

Elective modules

Veterinary industrial pharmacology 800 (VIP 800)

Module credits 50.00

Prerequisites No prerequisites.

Language of tuition English

Academic organisation Paraclinical Sciences

Period of presentation Year

Module content

Veterinary pharmaceutical discovery and development.

Non-clinical safety and preclinical toxicology. Clinical safety and efficacy evaluation. Good laboratory and clinical practices. Drug statutory and application requirement. Drug application submission. Regulatory procedures, evaluation and veterinary drug control. Drug residue risk assessment. Product planning, production management and quality assurance. Drug marketing, pricing and promotion. Technical services, training, extension, product support and complaint investigation.

Clinical pharmacology 877 (FAK 877)

Module credits 30.00

Prerequisites No prerequisites.

Contact time 1 lecture per week

Language of tuition English

Academic organisation Paraclinical Sciences

Period of presentation Year

Module content

Advanced veterinary pharmacology including pharmaceuticals, pharmacokinetics, pharmacotherapeutics and pharmacodynamics. Clinical pharmacology relevant to selected domesticated, exotic and wildlife species in the area of specialization (*capita selecta*), including species-specific therapeutic objectives and rational pharmacotherapy; specialised drug therapy pertaining to relevant species and/or organ systems; drug use control and adverse drug reactions.

Biostatistics in veterinary science 852 (EPL 852)

Module credits 20.00

Prerequisites BVSc or equivalent qualification and Grade 12 Mathematics.

Contact time 2 seminars per week

Language of tuition English

Academic organisation Production Animal Studies

Period of presentation Semester 1

Module content

This module provides the student with a foundation in basic statistical methods commonly used by postgraduate students in veterinary science. It covers statistical building blocks, confidence intervals, hypothesis testing, chi-square procedures, regression and correlation, paired and pooled t-tests, analysis of variance and non-parametric tests.

Curriculum: Final year

Fundamental modules

Biostatistics in veterinary science 852 (EPL 852)

Module credits	20.00
Prerequisites	BVSc or equivalent qualification and Grade 12 Mathematics.
Contact time	2 seminars per week
Language of tuition	English
Academic organisation	Production Animal Studies
Period of presentation	Semester 1

Module content

This module provides the student with a foundation in basic statistical methods commonly used by postgraduate students in veterinary science. It covers statistical building blocks, confidence intervals, hypothesis testing, chi-square procedures, regression and correlation, paired and pooled t-tests, analysis of variance and non-parametric tests.

Core modules

Pharmacology 800 (FAK 800)

Module credits	344.00
Prerequisites	No prerequisites.
Language of tuition	English
Academic organisation	Paraclinical Sciences
Period of presentation	Year

Module content

Advanced theoretical, practical and experiential training in clinical or industrial pharmacology.

Advanced fundamentals of pharmacology 876 (FAK 876)

Module credits	30.00
Prerequisites	No prerequisites.
Language of tuition	English
Academic organisation	Paraclinical Sciences
Period of presentation	Year

Module content

Scope and historical development of veterinary pharmacology.
 Veterinary pharmaceuticals and formulation theory.
 Pharmacokinetic theory, pharmacokinetic analysis and modelling.
 Bioequivalence theory and evaluation.
 Physicochemical and molecular basis of drug action.
 Dose response and calculation of dose response parameters.
 Pharmacological modulation of organ and body functions.
 Molecular basis of action and pharmacological effects of chemotherapeutic agents.
 Adverse drug reactions, interactions and pharmacovigilance.
 Comparative species pharmacology, pharmacogenomics and pharmacogenetics.
 Background on complementary medicines.
 Fundamentals of pharmacological research.

Mini-dissertation: Pharmacology 895 (FAK 895)

Module credits	126.00
Prerequisites	No prerequisites.
Language of tuition	English
Academic organisation	Paraclinical Sciences
Period of presentation	Year

Research methodology 812 (VRM 812)

Module credits	9.00
Language of tuition	English
Academic organisation	Vet Sc Dean's Office
Period of presentation	Semester 1 and Semester 2

Module content

A web-based introductory module in research methodology that includes planning and undertaking a research project or clinical trial, collecting and analysing data, scientific writing, and enabling preparation and presenting of a research protocol.

Elective modules

Veterinary industrial pharmacology 800 (VIP 800)

Module credits	50.00
Prerequisites	No prerequisites.
Language of tuition	English
Academic organisation	Paraclinical Sciences
Period of presentation	Year

Module content

Veterinary pharmaceutical discovery and development.

Non-clinical safety and preclinical toxicology. Clinical safety and efficacy evaluation. Good laboratory and clinical practices. Drug statutory and application requirement. Drug application submission. Regulatory procedures, evaluation and veterinary drug control. Drug residue risk assessment. Product planning, production management and quality assurance. Drug marketing, pricing and promotion. Technical services, training, extension, product support and complaint investigation.

Clinical pharmacology 877 (FAK 877)

Module credits	30.00
Prerequisites	No prerequisites.
Contact time	1 lecture per week
Language of tuition	English
Academic organisation	Paraclinical Sciences
Period of presentation	Year

Module content

Advanced veterinary pharmacology including pharmaceutics, pharmacokinetics, pharmacotherapeutics and pharmacodynamics. Clinical pharmacology relevant to selected domesticated, exotic and wildlife species in the area of specialization (capita selecta), including species-specific therapeutic objectives and rational pharmacotherapy; specialised drug therapy pertaining to relevant species and/or organ systems; drug use control and adverse drug reactions.

Biostatistics in veterinary science 852 (EPL 852)

Module credits	20.00
Prerequisites	BVSc or equivalent qualification and Grade 12 Mathematics.
Contact time	2 seminars per week
Language of tuition	English
Academic organisation	Production Animal Studies
Period of presentation	Semester 1

Module content

This module provides the student with a foundation in basic statistical methods commonly used by postgraduate students in veterinary science. It covers statistical building blocks, confidence intervals, hypothesis testing, chi-square procedures, regression and correlation, paired and pooled t-tests, analysis of variance and non-parametric tests.

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.