

# University of Pretoria Yearbook 2021

## PGDip in Laboratory Animal Science (08220062)

**Department** Paraclinical Sciences

**Minimum duration of study** 1 year

**Total credits** 120

**NQF level** 08

### Programme information

- The following persons may benefit from enrolling for the PGDip:
- The Department of Agriculture, Forestry and Fisheries (DAFF) identified a need for further theoretical training for their staff in veterinary public health, veterinary epidemiology and animal disease management. This one-year diploma provides for their training needs.
- BTech (or National Higher Diploma) graduates in Animal Health may apply for the diploma programme in order to prepare for masters' study.
- Veterinarians, who are undertaking or have completed their compulsory community service and require refreshment training in preparation for private practice, may benefit from enrolling for the diploma programme.
- Registered veterinarians who require further education towards their continued registration as professionals with the South African Veterinary Council (Continual Professional Development) will benefit by obtaining a PGDip as another means to obtaining their CPD requirements.
- Veterinarians who are in single person practices, who do not have the intention of being specialists due to the time commitments of specialist training, will gain advanced veterinary knowledge at a level above that of an undergraduate while they are still resident at their practices.
- Staff members of veterinary schools in Africa may enrol for the PGDip. As online modules are available to people who have the need for training, but do not necessarily have the funding for contact study in South Africa.
- The curriculum consists of four compulsory core and elective theoretical modules of 30 credits each to the value of 120 credits.
- **Also consult General Regulations.**
- 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 according to the syllabi information provided in the list of modules in this publication.

### Admission requirements

1. Relevant bachelor's degree **or** Bachelor of Technology degree **or** relevant diploma (NQF level 7)
2. An admissions examination may be required

## Examinations and pass requirements

The PGDip is conferred by virtue of the successful completion of tests/assignments and an examination on four 30 credit coursework modules.

Every module will be evaluated by a written or oral test or assignment or practical work (a year mark will be determined) and an examination. The year mark and examination mark will each contribute 50% to the final mark. A subminimum of 40% is required in the examination and a final mark of at least 50% to pass the module. Instructions regarding requirements for year or examination marks are published in the study guides. If a student fails a module, he/she will have to repeat the module the following year. A candidate has two chances to pass a module.

## Pass with distinction

The diploma is conferred with distinction on a student who has obtained an average of at least 75%, provided that a minimum final mark of 60% in each of the modules have been obtained.

## Curriculum: Final year

### Minimum credits: 120

The two core modules are compulsory.

Choose 2 elective modules from the list of electives.

(Clinical subjects are limited to veterinary graduates only.)

## Core modules

### Laboratory animal science 702 (LAS 702)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Paraclinical Sciences
<b>Period of presentation</b>	Year

#### Module content

Section 1: (10 credits)

Application of procedures within an accredited laboratory animal facility, with focus on laboratory animal management (rats and mice), including housing and care; enrichment; breeding; methods of dosing and methods of sample collection.

Section 2: (20 credits)

The biology of laboratory animals, their management and use as models in biomedical research.

The aim is to extend the activities concerning the care and use of laboratory animals for research, training and testing. Further to affirm the concept on which the modern practice of experimenting with animals is based, to take into consideration the controversy evoked in the climate of animal rights. The special professional role required of the veterinary and paraveterinary professions to enhance humane practice with regard to animal experiments as well as the promotion of a productive scientific effort in the biomedical sciences.

### Research ethics for laboratory animal science 704 (LAS 704)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Paraclinical Sciences
<b>Period of presentation</b>	Year

#### Module content

An advanced module in research methodology for veterinarians involved in laboratory animals and/or laboratory work. The study will focus on animal ethics, animal ethics committee, evaluation of protocols and study design. Focus will also be placed on legislation for the use and protection of animals.

## Elective modules

### African wildlife disease management 701 (AWD 701)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Production Animal Studies
<b>Period of presentation</b>	Year

#### Module content

Advanced training in infectious, parasitic and nutritional diseases of wildlife and their management in African wildlife species under ranching conditions. Also included are ostrich and crocodile farming.

### Controlled and notifiable diseases 701 (CND 701)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Veterinary Tropical Diseases
<b>Period of presentation</b>	Year

#### Module content

Advanced training in diseases with implications on trade and/or human health/wellbeing. The module will convey advanced knowledge in the specific disease, their management and basic monitoring epidemiological tools. Attention will also be given to emerging diseases as well as diseases associated with wildlife ranching.

### Clinical pharmacology 701 (FAK 701)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Paraclinical Sciences
<b>Period of presentation</b>	Year

#### Module content

(BVSc graduates only)

Advanced studies in veterinary clinical pharmacology studies pharmacotherapeutic features related to veterinary medicine and species-specific therapeutic objectives.

### Mechanisms of drug action 702 (FAK 702)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.

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

**Department** Paraclinical Sciences

**Period of presentation** Year

**Module content**

Fundamentals of the pharmacokinetics and pharmacodynamics of veterinary drugs.

### Physiology 701 (FSL 701)

**Module credits** 30.00

**NQF Level** 08

**Prerequisites** No prerequisites.

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

**Department** Anatomy and Physiology

**Period of presentation** Year

**Module content**

Advanced level, with the emphasis on applied and pathophysiology of disease.

### Herd and primary animal health 701 (HAH 701)

**Module credits** 30.00

**NQF Level** 08

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

**Department** Production Animal Studies

**Period of presentation** Year

**Module content**

The module will enable students to integrate and apply knowledge so that health and production problems can be identified and solved on a herd basis, while health status and production effectiveness can be improved from a holistic and cost effective viewpoint. The module will also include aspects of primary animal health care that will be applicable to needs of the emerging farming sector.

### Histology 701 (HTY 701)

**Module credits** 30.00

**NQF Level** 08

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

**Department** Anatomy and Physiology

**Period of presentation** Year

**Module content**

An in-depth comparative study of light and electron microscopic histology of domestic animals, birds and selected wildlife species.



### Clinical pathology 704 (KPA 704)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<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

(BVSc graduates only)

Advanced study in clinical pathology including enzymology, cytology, haematology as well as clinical pathology of the kidney in domestic animals.

### Clinical pathology 705 (KPA 705)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.
<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

(BVSc graduates only)

Advanced study in clinical pathology including proteins, blood-gas and acid-base balance, gastro-enterology, haemostasis, and diagnostic test characteristics in domestic animals.

### Laboratory diagnostics procedures 703 (LAS 703)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.
<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 module will focus on basic tests available in laboratory diagnostics for infectious and parasitic diseases. Focus will be placed on the interpretation of tests, issuing of certificates, validation of test procedures, quality assurance and laboratory safety. The course will include basic within the laboratory of the department.

## Necropsy technique and interpretation 701 (NTI 701)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Paraclinical Sciences
<b>Period of presentation</b>	Year

### Module content

#### (BVSc graduates only)

An advanced module in necropsy techniques, interpretation and specimen collection.

## Production animal management 701 (PAM 701)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Production Animal Studies
<b>Period of presentation</b>	Year

### Module content

The module content includes the study of animal genetics, nutrition, management, housing, keeping of records, hygiene, welfare and behaviour, with special emphasis on nutrition. The species concerned are dairy cattle, beef cattle, small stock and pigs.

## Mechanisms of disease 711 (PAT 711)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Paraclinical Sciences
<b>Period of presentation</b>	Year

### Module content

An advanced module covering the mechanisms behind disease processes.

## Poultry health and nutrition 701 (PVT 701)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08



<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Production Animal Studies
<b>Period of presentation</b>	Year

#### **Module content**

Advanced training in poultry health, production systems and nutrition.

### **Reproductive biology 701 (RPT 701)**

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Production Animal Studies
<b>Period of presentation</b>	Year

#### **Module content**

(BVSc graduates only)

Includes the physiology and endocrinology of puberty, the oestrous cycle, pregnancy, parturition, the puerperium, as well as that of the foetus and the neonate. Also included are the physiology and endocrinology of the bull, more specifically that of puberty, spermatogenesis, the scrotum, the accessory sex glands, libido, erection, coitus, sperm and semen. Also included are certain aspects of reproductive biotechnology, namely the biotechnical aspects of collection, examination and freezing of semen and embryos, embryo transfer and in vitro fertilisation.

### **Organic and inorganic toxicology 705 (TOK 705)**

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Paraclinical Sciences
<b>Period of presentation</b>	Year

#### **Module content**

Advanced training on the most important and well-known plant, mycotoxins, zootoxicoses and organic and inorganic poisons.

### **Basic veterinary toxicology 706 (TOK 706)**

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	No prerequisites.





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<b>Language of tuition</b>	Module is presented in English
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<b>Department</b>	Paraclinical Sciences
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<b>Period of presentation</b>	Year
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**Module content**

Introduction to the underlying principles of toxicology. Includes training in laboratory based toxicity testing and methodology

**Porcine health, production and nutrition 701 (VKH 701)**

<b>Module credits</b>	30.00
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<b>NQF Level</b>	08
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<b>Prerequisites</b>	No prerequisites.
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<b>Language of tuition</b>	Module is presented in English
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<b>Department</b>	Production Animal Studies
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<b>Period of presentation</b>	Year
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**Module content**

Advanced theoretical study in pig housing, nutrition and disease for animal housed both outdoor and intensive, specifically applicable to conditions of Southern Africa.

**Veterinary milk and meat hygiene 701 (VPH 701)**

<b>Module credits</b>	30.00
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<b>NQF Level</b>	08
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<b>Prerequisites</b>	No prerequisites.
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<b>Language of tuition</b>	Module is presented in English
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<b>Department</b>	Paraclinical Sciences
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<b>Period of presentation</b>	Year
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**Module content**

Advanced knowledge and application of veterinary meat (Red meat, Poultry, Ostrich, Wild Game, Crocodiles and fish) and milk (Raw milk and milk products) hygiene and food safety (including Zoonotic / food borne diseases). Also includes auditing, certification for export and the applicable interpretation of laboratory results. Emerging and re-emerging diseases.

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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.

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