Introduction

• History of veterinary education in South Africa
• Some background of the Faculty
• Curricular developments
• Current veterinary and veterinary nurses curriculum
• New proposed veterinary and veterinary nurses programme
• A brief description of post graduate programmes
• Recommendations

History

• Faculty of Veterinary Science established in 1920

1920 – 1941
• Catered primarily for state

1942 – 1951
• Increasing growth of private practice

1973 – 1980
• Incorporation into UP;
• Increase in student numbers;
• Veterinary nurses

• Second Faculty at MEDUNSA
• New facilities at Onderstepoort

1999 - to date
• Amalgamation of MEDUNSA and UP
• Restructuring and development of new Faculty

Current situation

• Staff component of 113 (94) academic & 241 support staff
• 619 UG veterinary students and 78 veterinary nurses
• 239 PGs (23 Hons, 117 MSc, 44 MMedVet & 55 PhD)
• Excellent infrastructure and Veterinary Academic Hospital
Faculty structure

Dean
Deputy Dean

Academic administration

Departments
- Anatomy & Physiology
- Companion Animal Studies
- Parasitology
- Production Animal Studies
- Veterinary Tropical Diseases

DVAH

Centres
- ERC
- CVWS

Support services
- Personnel
- Finances
- OTAU

Current Veterinary Training Programme

- 7-year programme
  - Consists of a 3-year directed BSc (Veterinary Biology) degree offered full-time on the main campus of UP and on the Onderstepoort campus
  - Followed by a 4-year BVSc degree (professional component) offered full-time on the Onderstepoort campus
Professional Programme (BVSc)

- First year: basic and para-clinical
- Second and third years: species-based
- Final or fourth year: lecture-free experiential training

Reasons for Development of new veterinary curriculum

- Admission and Selection process is rigid
- Selection only occurs late
- Veterinary students not initially identifiable
- Excessively long and costly
- Difficulty of allocation of bursaries
- Little or no control over module content and academic rules
- Little or no insight into student support systems
- General perception that the programme not locally relevant
- Programme heavily overloaded.

Principles for development of new veterinary curriculum

- Shorter, single degree programme
- Alignment with the latest veterinary educational philosophies and approaches
- Meet national needs and expectations
- Apply a core-elective approach
- Reduce overload
- Review the education format and technologies used in training
- Review the assessment policy
- Consider the inclusion of a distributive model for experiential training
- Add life skills and leadership as an integral component of the core training
- Review the admission policy

Day-One competencies

- General professional skills and attributes
  - Legal and statutory requirements and obligations
  - Verbal and writing skills
  - Ethical responsibilities
- Underpinning knowledge and understanding
  - Basic subjects in chemistry, molecular cell biology and physics as well as animal science
  - Structure and functions of healthy animals and all aspects of their husbandry
  - Aetiology, pathogenesis, clinical signs, diagnosis, pathology, treatment, epidemiology and control/eradication of the common diseases
- Practical competencies and skills

Proposed new macro-curriculum 1st year

<table>
<thead>
<tr>
<th>THEME</th>
<th>1ST SEMESTER</th>
<th>2ND SEMESTER</th>
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</thead>
<tbody>
<tr>
<td>Theme</td>
<td>FIRST SEMESTER</td>
<td>SECOND SEMESTER</td>
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<tr>
<td>Academic literacy</td>
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<td>Information literacy 1</td>
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<tr>
<td>Mathematics</td>
<td>Biometry</td>
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<td>Chemistry</td>
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<td>Physics</td>
<td>Introductory Genetics</td>
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<tr>
<td>Molecular and cell biology</td>
<td>Animal Nutrition</td>
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<td>Medical Terminology</td>
<td>Introductory Animal Science</td>
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<td>Professional Life</td>
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</table>

Proposed new macro-curriculum 2nd year

<table>
<thead>
<tr>
<th>THEME: BASIC VETERINARY DISCIPLINES</th>
<th>1ST SEMESTER</th>
<th>2ND SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme</td>
<td>FIRST SEMESTER</td>
<td>SECOND SEMESTER</td>
</tr>
<tr>
<td>Veterinary Anatomy + Embryology</td>
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<tr>
<td>Veterinary Histology</td>
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<tr>
<td>Veterinary Physiology</td>
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<tr>
<td>Veterinary Ethology + Genetics</td>
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<tr>
<td>Animal Science</td>
<td>Animal Ecology</td>
<td></td>
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<tr>
<td>Veterinary Microbiology</td>
<td>Veterinary Immunology</td>
<td></td>
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<tr>
<td>Pasture Science</td>
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<tr>
<td>Professional Life</td>
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</tbody>
</table>
Proposed new macro-curriculum 3rd year

**THEME: CAUSES AND EFFECTS OF DISEASE**

<table>
<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>SECOND SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterinary Infectious Diseases</td>
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</tr>
<tr>
<td>Veterinary Parasitology</td>
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<tr>
<td>Veterinary Toxicology</td>
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<tr>
<td>General Veterinary Pharmacology</td>
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<tr>
<td>General and Organ Pathology</td>
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</tr>
<tr>
<td>Applied Veterinary Physiology</td>
<td>General Surgery</td>
</tr>
<tr>
<td>Professional Life</td>
<td></td>
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</tbody>
</table>

First Semester Courses:
- Veterinary Infectious Diseases
- Veterinary Parasitology
- Veterinary Toxicology
- General Veterinary Pharmacology
- General and Organ Pathology
- Applied Veterinary Physiology
- Professional Life

Second Semester Courses:
- General Surgery

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Proposed new macro-curriculum 4th year

**THEME: DIAGNOSTICS AND THERAPEUTICS**

<table>
<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>SECOND SEMESTER</th>
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</thead>
<tbody>
<tr>
<td>Small Animal Medicine and Surgery</td>
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<tr>
<td>Equine Medicine and Surgery</td>
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<tr>
<td>Veterinary Reproduction</td>
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<tr>
<td>Diagnostic Imaging</td>
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<tr>
<td>Clinical Pathology</td>
<td>Anaesthesiology</td>
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<tr>
<td>Diagnostic Pathology</td>
<td></td>
</tr>
<tr>
<td>Professional Life</td>
<td></td>
</tr>
</tbody>
</table>

First Semester Courses:
- Small Animal Medicine and Surgery
- Equine Medicine and Surgery
- Veterinary Reproduction
- Diagnostic Imaging
- Clinical Pathology
- Diagnostic Pathology
- Professional Life

Second Semester Courses:
- Anaesthesiology
- Equine Clinic
- Outpatients
- Ophthalmology/Dentistry & Radiology
- Small Animal Surgery
- Small Animal Medicine
- Holiday clinics
- Private practice/electives

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Proposed new macro-curriculum 5th year

**HEALTH AND PRODUCTION**

<table>
<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>ELECTIVE DIDACTIC</th>
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<tbody>
<tr>
<td>Veterinary Public Health: Research Methodology and a short project</td>
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<tr>
<td>Veterinary Practice Management</td>
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</tr>
<tr>
<td>Tropical Animal Health: Proposed electives</td>
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</tr>
<tr>
<td>Bovine Health and Production: 4. Veterinary Public Health and State Veterinary Practice</td>
<td></td>
</tr>
</tbody>
</table>

First Semester Courses:
- Veterinary Public Health
- Veterinary Practice Management
- Tropical Animal Health
- Veterinary Epidemiology
- Bovine Health and Production
- Small Stock Health and Production

Elective Didactic Courses:
- Research Methodology and a short project
- Proposed electives
- 1. Small Animal and Exotic Practice
- 2. Equine Practice
- 3. Production Animal and Wildlife Practice
- 4. Veterinary Public Health and State Veterinary Practice

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Proposed new macro-curriculum 6th year

**EXPERIENTIAL TRAINING**

<table>
<thead>
<tr>
<th>FIRST 8 MONTHS</th>
<th>LAST 4 MONTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORE CLINICS</td>
<td>ELECTIVE CLINICS</td>
</tr>
</tbody>
</table>

First 8 Months:
- Veterinary Academic Hospital
  - 9 Clinics
- 32,392 patients per annum
- 5,779 referral cases

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General Experiential rotations

24w
- Production Animal Block (6 x 2w)
- Herd Health including pigs
- Production Animal Medicine and Surgery
- Reproduction
- Veterinary Public Health (1 x 2w)
- Veterinary Public Health & Poultry (1 x 2w)
- Vet Trop Div/ Clin Path/PharmTox (1 x 1w)
- Community Clinic (1 x 2w)
- Pathology (2 x 2w)
- State Veterinary Practice (1w)

24w
- Anaesthesiology (1 x 2w)
- Equine Clinic (2 x 2w)
- Outpatients (2 x 2w)
- Ophthalmology/Dentistry & Radiology (1 x 2w)
- Small Animal Surgery (2 x 2w)
- Small Animal Medicine (2 x 2w)
- Holiday clinics (December) (1w)
- Private practice/electives (3w)
**Community Clinics**
- Hluvukani Clinic
- Mamelodi Clinic

**Veterinary nurses programme**
- Currently 2 y diploma programme consisting of 1.5 y didactic reaching and 0.5 y experiential training
- Converting to a 3 y degree programme (BVN) that will consist of 2 y didactic teaching and 1 y of experiential training
- Veterinary nurses always function clinically under the control of a veterinarian

**Current Admission Policy**
- Students are submitted into BSs (Vet Biol) same as for all BSc biology and science programmes based on NSC
- Selected and admitted into veterinary programme after completion of BSc (Vet Biol) II based on academic performance and population demographics

**New proposed Admission Policy**
- Selection and admitted to veterinary training from school and from university
- Admissions test
- Psychometric testing
- Academic performance
- Interviews
Veterinary Nursing: DipVetNurs

- Admission (minimum requirements)
  - National Senior Certificate (NSC)

### Degree Programmes and Duration

<table>
<thead>
<tr>
<th>Degree</th>
<th>Programmes</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>BVSc (Hons)</td>
<td>Combination of 3-4 modules</td>
<td>2 – 3 y</td>
</tr>
<tr>
<td>MMedVet</td>
<td>Anaesthesiology; Bovine Medicine; Cattle Herd Health; Clinical Laboratory Diagnostics; Diagnostic Imaging; Equine Medicine; Equine Surgery; Laboratory Animal Science; Ophthalmology; Pathology; Pharmacology; Pig Herd Health; Poultry Diseases; Small Animal Medicine; Small Animal Surgery; Small Stock Herd Health; Reproduction; ToxicoLOGY; Veterinary Ethology; Veterinary Public Health; Wildlife Diseases</td>
<td>4 – 5 y</td>
</tr>
<tr>
<td>Taught Masters</td>
<td>Veterinary Industrial Pharmacology; Veterinary Tropical Diseases</td>
<td>1 – 2 y</td>
</tr>
<tr>
<td>Research Masters</td>
<td>Anatomy and Physiology; Companion Animal Studies; Parasitology; Production Animal Studies; Veterinary Tropical Diseases</td>
<td>1 – 2 y</td>
</tr>
<tr>
<td>PhD</td>
<td>Anatomy and Physiology; Companion Animal Studies; Parasitology; Production Animal Studies; Veterinary Tropical Diseases</td>
<td>3 – 5 y</td>
</tr>
</tbody>
</table>

**Total 339**

### Post graduate programmes

- Molecular studies on parasitic diseases
- Phyto- and Ethnoveterinary medicines
- Quality assurance
- Research Focus Areas
  - Wildlife and Environmental studies
  - Equine and Companion animal health and Welfare
  - Veterinary aspects of food safety and food security

**Collaboration and Alliances**

- MOUs (USA, Scandinavia, Europe, S&Africa)
- Strategic alliances (NRF, OVI, OBP, ITM, DGIC, Welcome trust, CIRAD, EU, Fladers)

**Quality assurance**

- Internal QA systems through EI staff, peer review and student evaluation
- External examiners for all modules
- SAVC visitation and monitoring
- UP departmental self-evaluation programme
- External evaluation of training and research programmes
- Participation in global accreditation initiatives
- Laboratory QA programmes
Recommendations

• Strengthen current deans meeting
• Implementation of a core – elective approach for veterinary training
• Development of Day-One competencies required for each country to represent core programme
• Consider an accreditation system for veterinary programmes within region
• Special training and research programme should be subject to external evaluation