### Subject information (Overview of Syllabus)

The syllabus content is subject to change to accommodate industry changes. Please note: A more detailed syllabus is available at the department or in the study guide that is applicable to a particular subject. On 29 April 2016, the syllabus content was defined as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Contact Hours</th>
<th>Credit Value</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANY101T</td>
<td>Agricultural Anatomy and Physiology</td>
<td>3 hours</td>
<td>1</td>
<td>Department of Animal Sciences</td>
</tr>
<tr>
<td>AAP101T</td>
<td>Agricultural Anatomy and Physiology I</td>
<td>3 hours</td>
<td>1</td>
<td>Department of Animal Sciences</td>
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<tr>
<td>AEC101T</td>
<td>Agricultural Production Economics I</td>
<td>3 hours</td>
<td>1</td>
<td>Department of Crop Sciences</td>
</tr>
<tr>
<td>AGS101T</td>
<td>Agricultural Science I</td>
<td>3 hours</td>
<td>1</td>
<td>Department of Animal Sciences</td>
</tr>
<tr>
<td>ANU201T</td>
<td>Animal Nutrition II</td>
<td>3 hours</td>
<td>1</td>
<td>Department of Animal Sciences</td>
</tr>
<tr>
<td>DPS400T</td>
<td>Animal Production IV</td>
<td>Continuous Assessment</td>
<td>3</td>
<td>Department of Animal Sciences</td>
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<tr>
<td>APE101T</td>
<td>Animal Production Economics I</td>
<td>3 hours</td>
<td>1</td>
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<tr>
<td>ANS400T</td>
<td>Animal Science IV</td>
<td>3 hours</td>
<td>1</td>
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</tbody>
</table>

**AGRICULTURAL ANATOMY AND PHYSIOLOGY (ANY101T)**
A systematic, summarised study of the cell, skeleton, muscular system, nervous system and sense organs, organs and organ systems of the different farm animals, as well as the physiology of digestion, milk production and endocrinology. (Total tuition time: ± 70 hours)

**AGRICULTURAL ANATOMY AND PHYSIOLOGY I (AAP101T)**
A systematic, summarised study of the skeleton, muscular system, organs and organ systems of the different farm animals, as well as the physiology of digestion, milk production and endocrinology. (Total tuition time: ± 70 hours)

**AGRICULTURAL PRODUCTION ECONOMICS I (AEC101T)**

**AGRICULTURAL SCIENCE I (AGS101T)**
An introduction to the basics of science, as required later in the qualification. Specific aspects of organic chemistry, biochemistry, physics, mathematics, biology, computer application, cell biology, genetics and accounting. (Total tuition time: ± 96 hours)

**ANIMAL NUTRITION II (ANU201T)**
The maintenance and production requirements of ruminants and monogastric animals. The nutrients in feed, namely protein, energy, vitamins, minerals and fats. Feed components and chemical feed additives. (Total tuition time: ± 96 hours)

**ANIMAL PRODUCTION IV (DPS400T)**
Advanced concepts in small stock, poultry, pig, beef, milk and fodder production. Preparation and presentation of three seminars on approved animal and fodder production topics. (Total tuition time: ± 300 hours)

**ANIMAL PRODUCTION ECONOMICS I (APE101T)**
Study field of agricultural economics with the emphasis on production management and micro-economics of production, with specific reference to animal production systems. Introduction to general farming management and internal management information systems with reference to the principles of financial management under conditions of risk and uncertainty in an agricultural context. (Total tuition time: ± 40 hours)

**ANIMAL SCIENCE IV (ANS400T)**
Broadening the knowledge field of animal science through four modules, with an emphasis on animal physiology, nutrition, breeding and health. Animal physiology module covers growth and reproductive physiology. Nutrition will focus on digestion and metabolism of nutrients. Breeding focuses on principles of genetics, molecular biology and breeding systems. Animal health will focus on immunity and vaccination principles, parasites and animal diseases. (Total tuition time: not available)
### ANIMAL SCIENCE PROJECT IV (PJA400T)
**CONTINUOUS ASSESSMENT**

**Subject custodian:** Department of Animal Sciences

The development and evaluation of a control or development strategy and/or programme regarding a selected diversification or specialist field in agriculture, using existing literature. Internal evaluation on the basis of preparation for, and the presentation of a seminar, through a colloquium. (Total tuition time: ± 200 hours)

### APPLIED ANIMAL REPRODUCTION (AAR201T)

**1 X 3-HOUR PAPER**

**Subject custodian:** Department of Animal Sciences


### BEEFER PRODUCTION II (BPD201T)

**1 X 3-HOUR PAPER**

**Subject custodian:** Department of Animal Sciences

An introductory study of beefer production with the emphasis on the beefer industry, breeds, breeding, reproduction, equipment, marketing, diseases and nutrition. (Total tuition time: ± 96 hours)

### BEEFER PRODUCTION III (BPD301T)

**1 X 3-HOUR PAPER**

**Subject custodian:** Department of Animal Sciences

An in-depth study of management programmes, marketing, seminars, applied nutrition, the efficiency of farming, judging, farm planning, beefer production and computer application. (Total tuition time: ± 70 hours)

### COMPUTER APPLICATION I (COA101T)

**CONTINUOUS ASSESSMENT**

**Subject custodian:** End User Computing Unit

Students have to acquire theoretical knowledge (computing fundamentals) and practical skills as an end-user in operating systems and MS Office suite applications (MS Word, MS Excel and MS PowerPoint) on an introductory level. Students will do online and computer based tests. The modules are mapped with SAQA and IC3 Essential Skills for Digital Literacy (international certification). (Total tuition time: ± 40 hours)

### CULTIVATED PASTURES (CVR201T)

**1 X 3-HOUR PAPER**

**Subject custodian:** Department of Animal Sciences

Broadening the field of pasture science by studying the role of cultivated pastures, soil and veld management, radical veld improvement, irrigation, fodder conservation, grass and legume pastures, grazing mixtures, drought feeding and fodder-flow planning. (Total tuition time: ± 120 hours)

### CULTIVATED PASTURES I (CVT101T)

**1 X 3-HOUR PAPER**

**Subject custodian:** Department of Animal Sciences

Broadening the field of pasture science by studying the role of cultivated pastures, soil and veld management, radical veld improvement, irrigation, fodder conservation, grass and legume pastures, grazing mixtures, drought feeding and fodder-flow planning. (Total tuition time: ± 120 hours)

### DATA MANAGEMENT II (DMN211T)

**CONTINUOUS ASSESSMENT**

**Subject custodian:** End User Computing Unit

Students have to acquire basic theoretical knowledge and advanced practical skills as end-users using MS Office Access. Principles of electronic data processing, including data capturing, data manipulation, data processing and information management. The practical applications will be customised to support data management as the specialisation field. (Total tuition time: ± 40 hours)
EQUINE ANATOMY AND PHYSIOLOGY I (EAP101T) 1 X 3-HOUR PAPER  
(Subject custodian: Department of Animal Sciences)  
An introduction to the basic anatomy and physiology of the horse, referring to the musculoskeletal system, organs and organ systems, as well as specific aspects of neurology and endocrinology. (Total tuition time: ± 112 hours)

EQUINE BREEDING I (EQB111T) 1 X 3-HOUR PAPER  
(Subject custodian: Department of Animal Sciences)  
An introduction to basic mammalian genetics, especially as applied to horse breeding. Horse diseases related to genetic deficiency. (Total tuition time: ± 80 hours)

EQUINE NUTRITION I (EQN111T) 1 X 3-HOUR PAPER  
(Subject custodian: Department of Animal Sciences)  
An introduction to livestock nutrition. The anatomy and physiology of the digestive system of the horse, feed analyses and a horse’s nutrient requirements. Classification and characteristics of different fodders. Practical horse feeding, as well as basic ration formulation. (Total tuition time: ± 80 hours)

EQUINE SCIENCE IV (EQC410T) 1 X 3-HOUR PAPER  
(Subject custodian: Department of Animal Sciences)  
Deepening the knowledge in the field of Equine Science through the following four modules: Nutrition, Reproduction, Exercise Physiology and Veterinary Care. Nutrition will focus on feeding practices and related problems in sport horses. Reproduction will concentrate on breeding systems and reproductive technology. Exercise Physiology includes principles of movement and training. In Veterinary Care, the existing knowledge of diseases and disorders will be deepened and new insights/ treatment methods will also be discussed. (Total tuition time: ± 300 hours)

FARRIERY I (FRY111T) 1 X 3-HOUR PAPER  
(Subject custodian: Department of Animal Sciences)  
An intensive study of all theoretical aspects of the shoeing of horses, as well as practical hoof care. The aim is not to train farriers, but to present the practice of shoeing to enable students to make a better assessment of the newly shod horse. (Total tuition time: ± 84 hours)

FOUNDATION CHEMISTRY (FPCHE05) 1 X 3-HOUR PAPER  
(Subject custodian: Department of Chemistry)  

FOUNDATION ENGLISH (FPENG02, FPENG05) 1 X 3-HOUR PAPER  
(Subject custodian: Department of Applied Languages)  
Interpret, relate and reflect on all available and relevant resource material in proper English. Communicate orally in a comprehensible and clear manner in both general and subject-specific communication. Demonstrate intermediate-Level of proficiency in written English. (Total tuition time: ± 160 hours)

FOUNDATION LIFE SKILLS (FPLSK02) 1 X 3-HOUR PAPER  
(Subject custodian: Department of Management and Entrepreneurship)  
Campus ethics, learning styles and whole-brain thinking, self-image and assertive behaviour, time management, self-motivation, conflict management, sexuality and relationships, problem-solving skills, managing stress, the multicultural society, techniques for summarising and memorising, how to cope with assessments and assignments, creativity, and many more. The life-skills sessions are participative, with group discussions and personal application to optimise student’s learning experience. (Total tuition time: ± 128 hours)
FOUNDATION MATHEMATICS (FPMAT07) 1 X 3-HOUR PAPER
(Subject custodian: Department of Mathematics and Statistics)

FOUNDATION PHYSICS (FPPHU06) 1 X 3-HOUR PAPER
(Subject custodian: Department of Physics)
A general physics qualification with applications in the agricultural sciences: remedial mathematics, fundamental units, vectors and scalars, kinematics in 1-D, forces and Newton's laws of motion, work, energy and power, fluids, temperature and heat, gas laws, transfer of heat, electricity: electric forces and fields, electric circuit and magnetism: magnetic fields and force that magnetic fields exert. (Total tuition time: ± 60 hours)

MARE AND FOAL MANAGEMENT II (MFM201T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
A complete study, with practical demonstrations, of the handling and care of a mare and foal, from the foal's birth to its weaning. (Total tuition time: ± 54 hours)

MILK PRODUCTION II (MPD201T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
Introduction to milk production with the emphasis on the dairy industry, dairy breeds, nutrition and management, milk production, breeding, reproduction, herd health, herd composition, parlour layout and mechanical milking. (Total tuition time: ± 96 hours)

MILK PRODUCTION III (MPD301T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
An in-depth study of health regulations, the processing of dairy products, applied economics and management, applied nutrition, applied breeding, seminars, equipment, planning and layout of units, management programmes. Farm planning: milk production and computer application. (Total tuition time: ± 96 hours)

NATURAL PASTURES (NTT201T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
The importance of veld pastures. The morphology, physiology and composition of grasses. Ecological and grazing concepts. Production characteristics of the main grazing areas of South Africa. Growth and production. Veld evaluation. The animal as a factor in veld management. Methods and principles of veld management. (Total tuition time: ± 120 hours)

NATURAL PASTURES I (NPT101T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
The importance of veld pastures. The morphology, physiology and composition of grasses. Ecological and grazing concepts. Production characteristics of the main grazing areas of South Africa. Growth and production. Veld evaluation. The animal as a factor in veld management. Methods and principles of veld management. (Total tuition time: ± 120 hours)

PASTURE SCIENCE I (PSC121T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
The morphology and physiology of grasses. Veld types and the interaction between livestock and pastures. Methods and principles of veld management. The characteristics, nutritional value and productivity of veld. The burning of veld, bush encroachment and radical veld improvement. The establishment, maintenance and management of cultivated pastures. The most important grasses, legumes, fodder trees and shrubs. Feed conservation and the planning of a fodder-flow programme. (Total tuition time: ± 50 hours)
PIG PRODUCTION II (PFM201T) 1 X 3-HOUR PAPER
*(Subject custodian: Department of Animal Sciences)*
An introductory study of the South African pig industry, breeds, breeding, reproduction, nutrition, diseases and housing. (Total tuition time: ± 30 hours)

PIG PRODUCTION III (PFM301T) 1 X 3-HOUR PAPER
*(Subject custodian: Department of Animal Sciences)*
An in-depth study of breeding, management, housing, applied nutrition, marketing, economy, data processing, reproduction technology, farm planning - pig production and computer application. (Total tuition time: ± 30 hours)

POULTRY PRODUCTION II (POD201T) 1 X 3-HOUR PAPER
*(Subject custodian: Department of Animal Sciences)*
An introductory study of poultry production with the emphasis on the poultry industry, breeds, breeding, reproduction, equipment, housing, nutrition and diseases. (Total tuition time: ± 96 hours)

POULTRY PRODUCTION III (POD301T) 1 X 3-HOUR PAPER
*(Subject custodian: Department of Animal Sciences)*
An in-depth study of broiler management, layer management, seminars, the handling of manure, marketing, applied nutrition, hatchery management, strategic planning. Farm planning: poultry production and computer application. (Total tuition time: ± 96 hours)

PRODUCTION ANIMAL BREEDING (PAD201T) 1 X 3-HOUR PAPER
*(Subject custodian: Department of Animal Sciences)*
Economic traits in farm animals. Basic Mendelian and molecular genetics. Population genetics, selection and breeding. (Total tuition time: ± 70 hours)

PRODUCTION ANIMAL PHYSIOLOGY (PAH101T) 1 X 3-HOUR PAPER
*(Subject custodian: Department of Animal Sciences)*
Cardio-vascular and respiratory system. Body defence and immune system. Urinary system. Reproduction physiology and endocrinology. Digestive physiology. Lactation physiology. (Total tuition time: ± 70 hours)

RESEARCH METHODOLOGY: AGRICULTURE (RMD10PC) 1 X 2-HOUR PAPER
*(Subject custodian: Department of Crop Sciences)*
Planning, designing and conducting research; meaning of research; tools in research; research paradigms; research and society; research project cycle; review of literature and citing sources; quantitative research including the survey method and the experimental method; qualitative research; ethics in research: the research proposal. (Total tuition time: ± 48 hours)

RESEARCH METHODOLOGY: BIOMETRY (RMD10QC) 1 X 2-HOUR PAPER
*(Subject custodian: Department of Crop Sciences)*
Introduction to statistics and biometry; general concepts in statistics; presenting and summarising data; relationships between variables (regression); probability theory; probability distributions; estimating population parameters; hypothesis testing. (Total tuition time: ± 48 hours)

SMALL STOCK PRODUCTION II (SSP201T) 1 X 3-HOUR PAPER
*(Subject custodian: Department of Animal Sciences)*
Introduction to small stock production with the emphasis on the small stock industry, small stock races, breeding, reproduction, diseases, nutrition and production systems. (Total tuition time: ± 70 hours)

SMALL STOCK PRODUCTION III (SSP301T) 1 X 3-HOUR PAPER
*(Subject custodian: Department of Animal Sciences)*
An in-depth study of management programmes, applied nutrition, marketing, equipment and housing, seminars, wool classification, breeding, judging, strategic planning. Farm planning: small stock production and computer application. (Total tuition time: ± 96 hours)
STABLE MANAGEMENT II (STB201T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
The layout of buildings and the construction of stables, ancillary buildings and arenas. Field management and fencing. All aspects of the daily management of a stable yard and the handling of horses. (Total tuition time: ± 51 hours)

STABLE MANAGEMENT III (STB301T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
This subject is divided into two subsections. The first covers the management of labour, as well as business, administrative and financial tasks concerning the running of a yard. The second is a study of exercise physiology. Exercise routines and the application of physiological norms in the exercising of horses. Riding programmes and the basic training of horses. (Total tuition time: ± 31 hours)

STALLION MANAGEMENT II (SLM201T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
An in-depth study of the handling, training and health of the stallion, with special reference to a healthy stallion. (Total tuition time: ± 50 hours)

VETERINARY SCIENCE I (VTS101T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
The pathogenesis of diseases and disturbances of normal function and balance in the body. The development of diseases as caused by micro-organisms, toxins, trauma and parasites. Functional disturbances. First-aid for horses. (Total tuition time: ± 92 hours)

VETERINARY SCIENCE II (VTS211T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
Specific conditions affecting the musculoskeletal system and the different organ systems of the horse are discussed. Special problems of the newborn foal are dealt with separately. Introduction to veterinary drugs and their routes of administration, as well as preventative medicine. (Total tuition time: ± 107 hours)

WORK-INTEGRATED LEARNING I (EXP1AAP, EXP1EQS) WORK-INTEGRATED LEARNING
WORK-INTEGRATED LEARNING II (EXP2AAP, EXP2EQS) WORK-INTEGRATED LEARNING
(Subject custodian: Department of Animal Sciences)
A project as determined by the University in collaboration with the employer. (Total tuition time: six months)

ZOOOTECHNOLOGY II (ZTN211T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
All important and interesting technical data on the equine industry are dealt with in this subject. The historical development of a horse and the different breeds and types. The ideal conformation and the deviations from it, normal gaits and gait abnormalities. Identification of horses, including age determination, blood typing and legal implications. Tack and harness, bandages and protective gear. (Total tuition time: ± 126 hours)

ZOOOTECHNOLOGY III (ZTN311T) 1 X 3-HOUR PAPER
(Subject custodian: Department of Animal Sciences)
A study of saddles, harnesses, other relevant equipment and their uses. Training programmes for shows. Special care of horses at shows and of the competing horses. (Total tuition time: ± 104 hours)