

CLINICAL PATHOLOGY

ISCED UNIT CODE: 0912 541 29A

TVET CDACC UNIT CODE: HE/CU/AHP/CC/19/6/MA

Relationship to Occupational Standards

This unit addresses the Unit of Competency: Apply knowledge of clinical Pathology.

UNIT DURATION: 50 Hour

Unit Description

This unit specifies the competencies required by an animal health and production technologist to apply knowledge of clinical pathological techniques in animal health. It involves applying knowledge of clinical pathology and principles of hematology, collecting and processing animal blood and urine samples and applying knowledge of clinical chemistry.

Summary of Learning Outcomes

By the end of this unit, the learner should be able to:

S/No	Learning Outcomes	Duration (Hours)
1.	Apply knowledge of clinical pathology and principles of hematology	5
2.	Collect and process animal blood sample	15
3.	Collect and process animal urine sample	15
4.	Apply knowledge of clinical chemistry	15
Total		50

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcomes	Content	Suggested Assessment Methods
1. Apply knowledge of clinical	1.1. Introduction to clinical pathology 1.2. Principles of hematology 1.3. Clinical pathology procedure	● Practical ● Project ● Portfolio of evidence

pathology and principles of hematology	1.3.1. Hematology 1.3.2. Urinalysis 1.3.3. Kidney function test 1.3.4. Liver function test 1.4. Erythrocyte structures and their inclusions 1.5. Erythrocyte destruction processes 1.6. Leukocyte structures	● Third party report ● Written assessment ● Oral questioning
2. Collect and process animal blood sample	2.1.Introduction to animal blood samples collection and processing 2.2.Venipuncture sites 2.2.1. Jugular vein 2.2.2. Femoral vein 2.2.3. Coccygeal vein 2.2.4. Ear vein 2.2.5. Milk vein 2.3.Blood sample collection 2.4.Blood sample handling 2.5.Blood sample processing	● Practical ● Project ● Portfolio of evidence ● Third party report ● Written assessment ● Oral questioning
3. Collect and process animal urine sample	3.1.Collection and processing of animal urine samples 3.2.Methods of urine sample collection 3.2.1. Voided urine collection 3.2.2. Cystocentesis 3.2.3. Cauterization 3.2.4. Bladder expression 3.3.Collection from environmental surfaces 3.3.1. Use of specialized equipment 3.3.2. Natural walking technique 3.3.3. Urine sample collection 3.3.4. Urine sample handling	● Practical ● Project ● Portfolio of evidence ● Third party report ● Written assessment ● Oral questioning

	3.3.5. Urine sample processing	
4. Apply knowledge of clinical chemistry	4.1.Introduction to clinical chemistry 4.2.Liver and kidney functions 4.3.Liver and kidney function tests 4.3.1. Serum creatinine 4.3.2. Blood urine nitrogen 4.3.3. Glomerular filtration rate 4.3.4. Urinalysis 4.3.5. Urine protein levels 4.3.6. Urine creatinine clearance 4.3.7. Electrolyte panel 4.3.8. Imaging tests 4.3.9. Kidney biopsy 4.3.10. Cerebrospinal fluid 4.3.11. Acid base balance	● Practical ● Project ● Portfolio of evidence ● Third party report ● Written assessment ● Oral questioning

Suggested Methods of delivery

- Practical
- Projects
- Demonstrations
- Group discussion
- Direct instructions

Recommended Resources for 25 Trainees

S/No.	Category/Item	Description/ Specification	Quantity	Recommended Ratio (Item: Trainee)
	Learning materials			
1.	Projector		1	1:25

2.	Whiteboard/Smart board		1	1:25
3.	Desktop/computer		1	1:25
4.	Lecture/Theory room		1	1:25
5.	Animal farm	As guided by KVB	1	1:25
6.	Library		1	1:25
7.	E-Library		1	1:25