INORGANIC AND ORGANIC CHEMISTRY

UNIT CODE: 0531 551 09A

TVET CDACC UNIT CODE: AGR/CU/AP/CC/01/6/MA

Relationship to Occupational Standards

This unit addresses the unit of competency: Apply inorganic and organic chemistry

DURATION OF UNIT: 120 Hours

UNIT DESCRIPTION

This unit specifies the competencies required by an Animal Production Technologist Level 6 to apply inorganic and organic chemistry. It involves applying physical chemistry principles, inorganic and organic chemistry concepts.

Summary of Learning Outcomes

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

S/No	Learning Outcomes	Duration (Hours)
1.	Apply Physical chemistry principles	40
2.	Apply Inorganic chemistry concepts	40
3.	Apply Organic chemistry concepts	40
Total		**120**

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcome	Content	Suggested Assessment Methods
1. Apply physical chemistry principles	1.1 Properties of acids and bases 1.2 Properties of salts 1.3 Ionic and chemical equilibrium properties 1.4 Properties of Kinetics reactions 1.5 Properties of gases	● Written assessment ● Practical ● Projects ● Third party report ● Portfolio of evidence ● Oral questions
2. Apply inorganic chemistry	2.1 Periodic table elements	● Written assessment

concepts	2.2 Chemical bonds • Ionic bonds • Covalent bonds • Metallic bonds • Hydrogen bonds 2.3 Inorganic salts	● Practical ● Projects ● Third party report ● Portfolio of evidence ● Oral questions
3. Apply organic chemistry concepts	3.1 Classes of organic compounds • Carbohydrates • Proteins • Lipids • Hydrocarbons 3.2 Physical properties of organic compounds • Colour • Hardness • Mass • Solubility • Density • Melting point 3.3 Chemical properties of organic compounds • pH • Chemical stability • Radioactivity • Flammability • Heat of combustion 3.4 Purification of synthesised organic compounds 3.5 Uses of purified organic compounds	● Written assessment ● Practical ● Projects ● Third party report ● Portfolio of evidence ● Oral questions

Suggested methods of delivery

- Demonstration
- Practical
- Discussions
- Direct instruction

Recommended Resources for 25 Trainees

S/No.	Category/Item	Description/ Specifications	Quantity	Recommended Ratio (Item: Trainee)
A	**Learning Materials**			
1.	Charts	Flip Charts Rules and Regulations	5	1:5
2.	Markers	whiteboard markers and permanent markers	5	1:5
3.	Video clips Audio tapes	MP4, MP3	5	1:5
4.	Newspapers and Handouts	Daily	25	1:1
5.	Business Journals	Annual, Monthly, Daily	25	1:1
6.	Periodic table chart	Well labeled	5	1:5
B	**Learning Facilities & Infrastructure**			
7.	Lecture/Theory Room	(9* 8 sq. metres)	1	1:25
8.	Internet Connection	WI-FI, Dial-Up, Cable,	1	1:25

		Fixed-wireless,		
C	**Consumable Materials**			
9.	Flashcards	Alphabet, Numbers, Math	25	1:1
10.	Stationery	Printing Papers, and Exercise Books Sizes A4, A3, A2 etc	5 reams	
11.	Laboratory consumable materials	Carbohydrates Proteins Lipids Hydrocarbons Acids and bases Gases	Sufficient	
D	**Tools And Equipment**			
12.	Computers/Laptops	Any model	1	1:25
13.	Projector	LED.LCD, Laser	5	1:5
14.	Whiteboard	Glass, melamine, porcelain	1	1:25
15.	Ph meter		5	1:5