

## BIOSTATISTICS AND COMPUTER APPLICATION

**ISCED UNIT CODE:** 0542 541 32A

**TVET CDACC UNIT CODE:** HE/CU/AHP/CC/08/6/MA

### **Relationship to Occupational Standards**

**This unit addresses the Unit of Competency:** Apply knowledge of biostatistics and computer application.

**UNIT DURATION:** 90 Hours

### **Unit Description**

This unit specifies the competencies required by an animal health and production technologist to apply knowledge biostatistics and computer applications. It involves applying concept of statistical population and samples, knowledge of descriptive statistics, probability, normal distribution curves and computer applications.

### **Summary of Learning Outcomes**

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

| <b>S/No</b>  | <b>Learning Outcomes</b>                            | <b>Duration (Hours)</b> |
|--------------|---|-------------------------|
| 1.           | Apply concept of statistical population and samples | <b>20</b>               |
| 2.           | Apply knowledge of descriptive statistics           | <b>20</b>               |
| 3.           | Apply knowledge of probability                      | <b>20</b>               |
| 4.           | Apply knowledge of normal distribution              | <b>20</b>               |
| 5.           | Apply computer applications                         | <b>10</b>               |
| <b>Total</b> |   | <b>90</b>               |

### **Learning Outcomes, Content and Suggested Assessment Methods**

| <b>Learning Outcomes</b>                       | <b>Content</b>   | <b>Suggested Assessment Methods</b>   |
|--|--|---|
| 1. Apply concept of statistical population and | 1.1. Definition of terms<br>1.1.1. Statistics<br>1.1.2. Population | <ul style="list-style-type: none"><li>• Practical</li><li>• Project</li><li>• Portfolio of evidence</li></ul> |

|  |   |   |
|--|---|---|
| samples                                      | 1.1.3. Samples<br>1.2. Types of population<br>1.3. Sampling methods<br>1.3.1. Stratified<br>1.3.2. Random<br>1.3.3. Snow bowling<br>1.3.4. Convenient<br>1.4. Types of Variables<br>1.5. Methods of data collection | <ul style="list-style-type: none"> <li>● Third party report</li> <li>● Written assessment</li> <li>● Oral questioning</li> </ul>  |
| 2. Apply knowledge of descriptive statistics | 2.1. Descriptive statistics<br>2.2. Measures of central tendencies<br>2.3. Dispersion measures  | <ul style="list-style-type: none"> <li>● Practical</li> <li>● Project</li> <li>● Portfolio of evidence</li> <li>● Third party report</li> <li>● Written assessment</li> <li>● Oral questioning</li> </ul> |
| 3. Apply knowledge of probability            | 3.1. Probability terminologies<br>3.2. Types of probabilities<br>3.3. Statistical probabilities   | <ul style="list-style-type: none"> <li>● Practical</li> <li>● Project</li> <li>● Portfolio of evidence</li> <li>● Third party report</li> <li>● Written assessment</li> <li>● Oral questioning</li> </ul> |
| 4. Apply knowledge of normal distribution    | 4.1. Normal distribution terminologies<br>4.2. Normal distribution curves<br>4.3. Normal distribution curves variables  | <ul style="list-style-type: none"> <li>● Practical</li> <li>● Project</li> <li>● Portfolio of evidence</li> <li>● Third party report</li> <li>● Written assessment</li> <li>● Oral questioning</li> </ul> |
| 5. Apply knowledge of computer application   | 5.1. Computer hardware<br>5.2. Computer software<br>5.3. Computer application   | <ul style="list-style-type: none"> <li>● Practical</li> <li>● Project</li> <li>● Portfolio of evidence</li> <li>● Third party report</li> <li>● Written assessment</li> </ul>                             |

|  |  |                    |
|--|--|--------------------|
|  |  | ● Oral questioning |
|--|--|--------------------|

### **Suggested Methods of delivery**

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

### **Recommended Resources for 25 Trainees**

| <b>S/No.</b> | <b>Category/Item</b>      | <b>Description/<br/>Specification</b> | <b>Quantity</b> | <b>Recommended<br/>Ratio<br/>(Item:<br/>Trainee)</b> |
|--------------|---------------------------|---------------------------------------|-----------------|--|
| 1.           | <b>Learning materials</b> |                                       |                 |  |
| 2.           | Projector                 |                                       | 1               | 1:25   |
| 3.           | Whiteboard/Smart board    |                                       | 1               | 1:25   |
| 4.           | Desktop/computer          |                                       | 25              | 1:1  |
| 5.           | Lecture/Theory room       |                                       | 1               | 1:25   |
| 6.           | Library                   |                                       | 1               | 1:25   |
| 7.           | E-Library                 |                                       | 1               | 1:25   |