

APPLY KNOWLEDGE OF BASIC EPIDEMIOLOGY

UNIT CODE: 0841 441 13A

TVET CDACC UNIT CODE: HE/OS/AHP/CC/11/5/MA

UNIT DESCRIPTION:

This unit specifies the competencies required by animal health technician in order to apply knowledge of basic principles of epidemiology. It involves applying principles epidemiology, knowledge of disease occurrence, carrying out disease surveillance, developing and applying disease prevention programme.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Apply principles of epidemiology	1.1 Distribution and determinants of disease knowledge is applied as per work requirement 1.1. Descriptive, analytic and clinical epidemiology knowledge is applied as per the principles of basic epidemiology 1.3 Measures of association are applied as per work procedure
2. Apply knowledge of disease occurrence	2.1 <i>Determinants of diseases</i> are managed as per work requirement 2.2 Measures of disease occurrence are applied as per work requirement. 2.3 Disease transmission and agent's factors in disease transmission are managed as per work procedure. 2.4 Factors of maintenance of infections are managed as per work procedure. 2.5 Factors influencing disease patterns are managed as per work requirement
3. Carry out disease surveillance	3.1 <i>Study designs</i> knowledge is applied as per work procedure 3.2 Disease monitoring and surveillance is conducted as per work procedure 3.3 Disease surveillance data is collected as per work procedure

4. Develop and apply disease prevention programme	4.1 Disease prevention programs are developed as per work requirement 4.2 Notifiable diseases are identified as per work procedure 4.3 Notifiable diseases are reported as per work procedure
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RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

Variable	Range
1. Determinants of disease	• Primary determinants • Secondary determinants • Intrinsic determinants • Extrinsic determinants
2. Study designs	• Incidence studies • Incidence cases • Prevalence studies. • Prevalence cases
3. Sources of surveillance data	• Department of veterinary services in the Ministry of Livestock Development • Veterinary investigative Laboratories • Private veterinary practitioners/animal health service provides • Non-governmental organizations involved in livestock activities • Livestock research organizations such as the International Livestock Research Institute (ILRI)
4. Disease prevention programmes	• Vaccinations • Quarantine • Tick control, vector control • Surveillance and reporting • Adequate nutrition • Good husbandry management practices

5. Notifiable diseases include but not limited to	● East Coast Fever ● Rabies, anthrax ● Rift Valley Fever ● Rinderpest ● Newcastle disease ● Trypanosomiasis
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REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required skills

The individual needs to demonstrate the following skills:

- Communication skills
- Training skills
- Data handling
- Computer skills

Required knowledge

The individual needs to demonstrate knowledge of:

- Disease control
- Parasitology
- Animal diseases
- Waste management and disposal methods

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	1.1 Applied distribution and determinants of disease knowledge as per work requirement 1.2 Applied descriptive, analytic and clinical epidemiology knowledge as per the principles of basic epidemiology 1.3 Applied measures of association as per work procedure 1.4 Managed determinants of diseases as per work requirement
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	1.5 Applied measures of disease occurrence as per work requirement. 1.6 Managed disease transmission and agent's factors in disease transmission as per work procedure. 1.7 Managed factors of maintenance of infections as per work procedure. 1.8 Managed factors influencing disease patterns as per work requirement 1.9 Applied study designs knowledge as per work procedure 1.10 Conducted disease monitoring and surveillance as per work procedure 1.11 Collected disease surveillance data as per work procedure 1.12 Developed disease prevention programs as per work requirement 1.13 Identified notifiable diseases as per work procedure 1.14 Reported notifiable diseases as per work procedure
2. Resource Implications	The following resources must be provided: 2.1 Appropriately simulated environment where assessment can take place 2.2 Access to relevant work environment 2.3 Resources relevant to the proposed activities or tasks
3. Methods of Assessment	Competency may be assessed through: ● Practical ● Project ● Written tests ● Third party report ● Portfolio of evidence ● Oral questions
4. Context of Assessment	Competency may be assessed in a: Workplace or simulated workplace
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job roles is recommended.

APPLY KNOWLEDGE OF ZOONOSSES AND ONE HEALTH CONCEPT

UNIT CODE: 0841 441 14A

TVET CDACC UNIT CODE: HE/OS/AHP/CC/21/5/MA

UNIT DESCRIPTION:

This unit specifies the competencies required by a veterinary technician in order to apply knowledge on zoonoses and one health concept. It involves applying knowledge of zoonoses, diagnosing zoonoses in animals, treating zoonoses in animals, preventing the incidence of zoonoses, controlling the spread of zoonoses and applying knowledge of one health.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes, which make up workplace function.	These are assessable statements, which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the range.</i>
1. Apply knowledge of zoonosis	1.1. <i>Zoonoses</i> are classified as per WHO guidelines. 1.2. <i>Zoonoses transmission</i> is managed as per work requirement 1.3 Zoonotic risk to humans is managed as per work procedure.
2. Diagnose zoonosis in animals	2.1 Clinical findings are identified as per work procedure 2.2 <i>Laboratory samples</i> are collected and analyzed as per work procedure 2.3 Postmortem examination is carried out as per work procedure
3. Prevent and treat zoonosis in animals	3.1 Intervention is identified as per diagnosis 3.2 Treatment is carried out as per VMD guidelines. 3.3 <i>Biosecurity measures</i> are applied as per requirement. 3.4 vaccination programs are carried out as per veterinary vaccination guidelines
4. Apply knowledge	4.1 One health concept is applied as per WHO guidelines

of one health	4.2 Components of One health triad are managed as per WHO guidelines. 4.3 One health principles are applied as per work requirement.
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RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

Variable	Range
1. Zoonoses include but not limited to	● Rabies ● Anthrax ● Brucellosis ● Listeriosis ● Dermatophytosis ● Rift valley fever ● Toxoplasmosis
2. Modes of transmission include but not limited to	● Direct contact ● Inoculation ● Aerosol ● Ingestion
3. Laboratory samples include but not limited to	● Blood ● Tissue ● Serum ● Milk
4. Biosecurity measures	● cleaning and sanitizing ● disinfection and sterilization ● isolation ● quarantine ● testing and slaughter

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required skills

The individual needs to demonstrate the following skills:

- Communication skills
- Training skills
- Animal husbandry
- Animal handling

Required knowledge

The individual needs to demonstrate knowledge of:

- Animal health
- Animal behaviour
- Animal anatomy and physiology
- Environment protection laws and regulations
- Waste management and disposal methods

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Classified zoonoses as per WHO guidelines. 1.2 Managed zoonoses transmission as per work requirement 1.3 Managed zoonotic risk to humans as per work procedure. 1.4 Identified clinical findings as per work procedure 1.5 Collected and analyzed laboratory samples as per work procedure 1.6 Applied biosecurity measures as per requirement. 1.7 Carried out vaccination programs as per veterinary vaccination guidelines 1.8 Applied one health concept as per WHO guidelines
2. Resource Implications	The following resources must be provided: 2.1 Appropriately simulated environment where assessment can take place

	2.2 Access to relevant work environment 2.3 Resources relevant to the proposed activities or tasks
3. Methods of Assessment	Competency may be assessed through: ● Practical ● Project ● Written tests ● Third party report ● Portfolio of evidence ● Oral questions
4. Context of Assessment	Competency may be assessed in a: Workplace or simulated workplace
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job roles is recommended.

APPLY KNOWLEDGE OF IMMUNOLOGY IN ANIMAL VACCINATION

UNIT CODE: 0841 441 15A

TVET CDACC UNIT CODE: HE/OS/AHP/CC/12/5/MA

UNIT DESCRIPTION:

This unit specifies the competencies required by an animal health technician to apply knowledge of immunology in animal vaccination. It involves applying knowledge of immunology, knowledge of serology in disease diagnosis, and applying knowledge of vaccines and immunization.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function	These are assessable statements which specify the required level of performance for each of the elements <i>(Bold and italicized terms are elaborated in the range)</i>
1. Apply knowledge of immunology	1.1 Immunological principles are applied as per work requirement 1.2 Immunity knowledge is applied as per work requirement 1.3 Immunology knowledge is applied as per requirement
2. Apply knowledge of serology in disease diagnosis	2.1 Serological principles are applied as per work procedure 2.2 <i>Serological tests</i> are conducted as per work procedure 2.3 Serology knowledge is applied as per work requirement
3. Apply knowledge of vaccinology and immunization	3.1 Vaccinology principles are applied as per work requirement 3.2 Adjuvants knowledge in vaccines is applied as per work requirement 3.3 <i>Vaccines</i> are managed as per work procedure

RANGE

This section provides work environment and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

Variable	Range
1.Serological tests may include but are not limited to:	● ELISA ● PCR ● CFT
2.Types of vaccines may include but are not limited to:	● Live ● Killed ● Attenuated ● Toxoids ● Antisera
3.Veterinary vaccines may include but are not limited to:	● Rabies ● LSD ● FMD ● RVF ● NCD ● Fowl Pox ● Fowl Typhoid ● ASF

REQUIRED KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this unit of competency.

Required skills

The individual needs to demonstrate the following skills:

- Communication skills
- Training skills
- Animal husbandry
- Animal handling

Required knowledge

The individual needs to demonstrate knowledge of:

- Animal physiology
- Animal anatomy
- Animal welfare, ethics and Law
- VMD guidelines
- Veterinary Surgeons and paraprofessionals Act

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills range.

1.Critical aspects of competency	1.1 Applied immunological principles as per work requirement 1.2 Applied immunity knowledge as per work requirement 1.3 Applied immunology knowledge as per requirement 1.4 Applied serological principles as per work procedure 1.5 Conducted serological tests as per work procedure 1.6 Applied serology knowledge as per work requirement 1.7 Applied vaccinology principles as per work requirement 1.8 Applied adjuvants knowledge in vaccines as per work requirement 1.9 Managed vaccines are as per work procedure
2. Resource implications	The following resources must be provided: 2.1 Appropriately simulated environment where assessment can take place 2.2 Access to relevant work environment 2.3 Resources relevant to the proposed activities or tasks
3. Methods of assessment	Competency may be assessed through: ● Practical ● Project ● Written tests ● Third party report ● Portfolio of evidence

	● Oral questions
4.Context of assessment	Competency may be assessed in a: Workplace or simulated workplace
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.