****

**REPUBLIC OF KENYA**

**COMPETENCY BASED CURRICULUM**

**FOR**

**WILDLIFE MANAGEMENT**

**LEVEL 5**

|  |  |
| --- | --- |
| TVET CDACCP.O. BOX 15745-00100NAIROBI | Kenya Wildlife Service Training InstituteP.O BOX 842-20117NAIVASHA |

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**Director General**

**Kenya Wildlife Service**

**P.O. Box 40241–00100**

**Nairobi, Kenya**

**Email: director@kws.go.ke**

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# FOREWORD

The provision of quality education and training is fundamental to the Government’s overall strategy for social economic development. Quality education and training will contribute to achievement of Kenya’s development blueprint and sustainable development goals.

Reforms in the education sector are necessary for the achievement of Kenya Vision 2030 and meeting the provisions of the Constitution of Kenya 2010. The education sector had to be aligned to the Constitution and this resulted in the formulation of the Policy Framework for Reforming Education and Training. A key feature of this policy is the radical change in the design and delivery of TVET training. This policy document requires that training in TVET be competency based, curriculum development be industry led, certification be based on demonstration of competence and the mode of delivery allows for multiple entry and exit in TVET programmes.

These reforms demand that Industry takes a leading role in curriculum development to ensure the curriculum addresses its competence needs. It is against this background that this curriculum has been developed.

It is my conviction that this curriculum will play a great role towards development of competent human resource for the Wildlife sector’s growth and sustainable development.

**PRINCIPAL SECRETARY, STATE DEPARTMENT FOR WILDLIFE**

**MINISTRY OF TOURISM AND WILDLIFE**

# PREFACE

Kenya Vision 2030 aims to transform the country into a newly industrializing, “middle-income country providing a high-quality life to all its citizens by the year 2030”. Kenya intends to create a globally competitive and adaptive human resource base to meet the requirements of a rapidly industrializing economy through life-long education and training. TVET has a responsibility of facilitating the process of inculcating knowledge, skills and attitudes necessary for catapulting the nation to a globally competitive country, hence the paradigm shift to embrace Competency Based Education and Training (CBET).

The Technical and Vocational Education and Training Act No. 29 of 2013 on Reforming Education and Training in Kenya, emphasized the need to reform curriculum development, assessment and certification. This called for a shift to CBET in order to address the mismatch between skills acquired through training and skills needed by industry as well as increase the global competitiveness of Kenyan labour force.

TVET Curriculum Development, Assessment and Certification Council (TVET CDACC) in conjunction with Wildlife Sector Skills Advisory Committee (SSAC) and Kenya Wildlife Service Training Institute have developed this curriculum guided bythe CBET Framework policy; the Competency Based Education and Training and Assessment(CBETA) standardsby TVET Authority and the Kenya National Qualification Framework (KNQF)by the Kenya National Qualification Authority (KNQA).

This curriculum is designed and organized with an outline of learning outcomes; suggested methods of instruction, training/learning resources and methods of assessing the trainee’s achievement. The curriculum is competency-based and allows multiple entry and exit to the course.

I am grateful to the Council Members, Council Secretariat, Wildlife SSAC, Kenya Wildlife Service, industry experts and all those who participated in the development of this curriculum.

**CHAIRPERSON**

**KWSTI ACADEMIC AND MANAGEMENT BOARD**

# ACKNOWLEDGMENT

This curriculum has been designed for competency-based training and has independent units of learning that allow the trainee flexibility in entry and exit. In developing the curriculum, significant involvement and support was received from various organisations.

I appreciate Kenya Wildlife Service Training Institute for the collaboration that enabled the development of this curriculum. I recognize with appreciation the role of the Wildlife Sector Skills Advisory Committee (SSAC) in ensuring that competencies required by the industry are addressed in the curriculum. I also thank all stakeholders in the Wildlife sector for their valuable input and all those who participated in the process of developing this curriculum.

I am convinced that this curriculum will go a long way in ensuring that workers in Wildlife sector acquire competencies that will enable them to perform their work more efficiently and effectively.

**DIRECTOR GENERAL**

**KENYA WILDLIFE SERVICE**

# ACRONYMS AND ABBREVIATIONS

AEWA African Eurasian Waterbirds Agreement

AIDs Acquired Immune Deficiency syndrome

AWF African Wildlife Foundation

BC Basic Competency

CBD Convention on Biological Diversity

CBET Competency Based Education and Training

CC Common Competency

CDACC Curriculum Development, Assessment and Certification Council

CITES Convention on International Trade in Endangered Species

CMS Convention on Migratory Species

CPR Cardio-Pulmonary Resuscitation

CR Core Competency

CU Curriculum

EMCA Environment Management and Coordination Act

GIS Geographical Information Systems

GPS Global Positioning System

HIV Human Immuno-deficiency Virus

ICT Information Communication Technology

IFAW International Fund for Animal Welfare

IUCN International Union for Conservation of Nature

KCSE Kenya Certificate of Secondary Education

KNQA Kenya National Qualifications Authority

KWS Kenya Wildlife Service

KWSTI Kenya Wildlife Service Training Institute

LCD Liquid Crystal Display

MEA Multilateral Environmental Agreement

NACOSTI National Council for Science Technology and Innovation

NEMA National Environment Management Authority

OSH Occupation Safety and Health

OSHA Occupation Safety and Health Act

PIC Prior Informed Consent

PPE Personal Protective Equipment

SSAC Sector Skills Advisory Committee

TOR Terms of Reference

TVET Technical and Vocational Education and Training

TVETA Technical and Vocational Education and Training Authority

WCMA Wildlife Conservation and Management Act

WL Wildlife

WLMA Wildlife Management Assistant

WWF World Wide Fund for Nature

# KEY TO UNIT CODE

 **WL /CU/WLMA/BC/01/ 5/A**

Industry or sector

Curriculum

Occupational area

Type of competency

Competency number

Competency level

Version control

# COURSE OVERVIEW

Wildlife Management Level 5 qualifications consists of competencies that an individual must achieve to provide wildlife conservation and management services. This involves applying principles of ecology, wildlife conservation and management and wilderness survival techniques. It also entails providing services in herpetology, ornithology, mammology, plant taxonomy, taxidermy and museum techniques. In addition, it involves the monitoring wildlife habitats, applying wildlife management techniques and monitoring human-wildlife interactions.

The units of learning for Wildlife Management Certificate level 5qualifications include the following:

**Basic Units of Learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** | **Duration in Hours** | **Credit Factor** |
| WL/CU/WLMA/BC/01/5A | Communication skills | 25 | 2.5 |
| WL/CU/WLMA/BC/02/5A | Numeracy skills | 40 | 4 |
| WL/CU/WLMA/BC/03/5A | Digital literacy | 45 | 4.5 |
| WL/CU/WLMA/BC/04/5A | Entrepreneurial skills | 70 | 7 |
| WL/CU/WLMA/BC/05/5A | Employability skills | 50 | 5 |
| WL/CU/WLMA/BC/06/5A | Environmental literacy | 25 | 2.5 |
| WL/CU/WLMA/BC/07/5A | Occupational safety and health practices | 25 | 2.5 |
| **Total** | **280** | **28** |

**Common units of learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code**  | **Unit Title** | **Duration (Hrs)** | **Credit Factor** |
| WL/CU/WLMA/CC/01/5A | Principles of ecology  | 70 | 7 |
| WL/CU/WLMA/CC/02/5A | Wildlife conservation and management  | 70 | 7 |
| WL/CU/WLMA/CC/03/5A | Wilderness survival techniques | 100 | 10 |
| **Total** | **240** | **24** |

**Core Units of Learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code**  | **Unit Title** | **Duration (Hrs)** | **Credit Factor** |
| WL/CU/WLMA/CR/01/5A | Natural history of reptiles  | 70 | 7 |
| WL/CU/WLMA/CR/02/5A | Natural history of birds | 70 | 7 |
| WL/CU/WLMA/CR/03/5A | Natural history of mammals  | 70 | 7 |
| WL/CU/WLMA/CR/04/5A | Taxidermy and museum techniques | 70 | 7 |
| WL/CU/WLMA/CR/05/5A | Plant taxonomy and ecology | 70 | 7 |
| WL/CU/WLMA/CR/06/5A | Wildlife habitat monitoring | 70 | 7 |
| WL/CU/WLMA/CR/07/5A | Wildlife management techniques | 70 | 7 |
| WL/CU/WLMA/CR/08/5A | Human-wildlife interactions | 70 | 7 |
|  | Industrial attachment | 360 | 36 |
| **Total**  | **920** | **92** |
| **Grand total** | **1440** | **144** |

Total course duration 1,440 hrs inclusive of 360 hours industrial attachment.

**Entry Requirements**

An individual entering this course should have any of the following minimum requirements:

1. Kenya Certificate of Secondary Education (KCSE) mean grade D (Plain)

**Or**

1. Any other qualifications as determined by Kenya National Qualifications Authority (KNQA)

**Field attachment**

An individual enrolled in this course will undergo a field attachment for a period of 360 hours in the wildlife sector.

**Tranier qualifications**

A Trainer for this course must have a higher qualification than this course

**Assessment**

The course will be assessed at two levels:

1. **Internal assessment**: conducted continuously by the trainer (internal assessor) who is monitored by an accredited internal verifier.
2. **External assessment:** conducted by an accredited external assessor who is monitored by an accredited external verifier.

The assessors and verifiers are registered by TVET CDACC which also coordinates external assessment.

**Certification**

An individual will be awarded a Certificate of Competency on demonstration of competence in a unit of competency. To be awarded Certificate in Wildlife Management Level 5, an individual must demonstrate competence in all the units of competency in the qualification pack.

These certificates will be awarded by Kenya Wildlife Service Training Institute.

# BASIC UNITS OF LEARNING

## COMMUNICATION SKILLS

**UNIT CODE:** WL/CU/WLMA/BC/01/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Demonstrate communication skills

**Duration of Unit:** 25hours

**Unit Description**

This unit describes the competencies required to use specialized communication skills to meet specific needs of internal and external clients, conduct interviews, facilitate discussion with groups and contribute to the development of communication strategies.

**Summary of Learning Outcomes**

1. Meet communication needs of clients and colleagues
2. Contribute to the development of communication strategies
3. Conduct interviews
4. Facilitate group discussions
5. Represent the organization

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Meet communication needs of clients and colleagues
 | * Communication process
* Modes of communication
* Medium of communication
* Effective communication
* Barriers to communication
* Flow of communication
* Sources of information
* Organizational policies
* Organization requirements for written and electronic communication methods
* Report writing
* Effective questioning techniques (clarifying and probing)
* Workplace etiquette
* Ethical work practices in handling communication
* Active listening
* Feedback
* Interpretation
* Flexibility in communication
 | * Observation
* Oral
 |
| 1. Contribute to the development of communication strategies
 | * Dynamics of groups
* Styles of group leadership
* Openness and flexibility in communication
* Communication skills relevant to client groups
 | * Written
* Observation
 |
| 1. Conduct interviews
 | * Types of interview
* Establishing rapport
* Facilitating resolution of issues
* Developing action plans
 | * Written
* Observation
 |
| 1. Facilitate group discussions
 | * Identification of communication needs
* Dynamics of groups
* Styles of group leadership
* Presentation of information
* Encouraging group members participation
* Evaluating group communication strategies
 | * Written
* Observation
 |
| 1. Represent the organization
 | * Presentation techniques
* Development of a presentation
* Multi-media utilization in presentation
* Communication skills relevant to client groups
 | * Observation
* Written
 |

**Suggested Delivery Methods**

* Interview
* Role playing
* Observation
* Viewing of related videos

**Recommended Resources**

* Desktop computers/laptops
* Internet connection
* Projectors
* Telephone

## NUMERACY SKILLS

**UNIT CODE:** WL/CU/WLMA/BC/02/5/A

**Relationship to Occupational Standards:**

This unit addresses the unit of competency: Demonstrate numeracy skills

**Duration of Unit:** 40 hours

**Unit Description**

This unit covers the competencies required to perform numerical functions. The person who is competent in this unit shall be able to: Calculate with whole numbers and familiar fractions, decimals and percentages for work; Estimate, measure, and calculate with routine metric measurements for work; Use routine maps and plans for work; Interpret, draw and construct 2D and 3D shapes for work; Interpret routine tables, graphs and charts for work; Collect data and construct routine tables and graphs for work; and Use basic functions of calculator

**Summary of Learning Outcomes**

1. Calculate with whole numbers and familiar fractions, decimals and percentages for work
2. Estimate, measure and calculate with routine metric measurements for work
3. Use routine maps and plans for work
4. Interpret, draw and construct 2D and 3D shapes for work
5. Interpret routine tables, graphs and charts for work
6. Collect data and construct routine tables and graphs for work
7. Use basic functions of calculator

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| Learning Outcome | Content | Methods of assessment |
| 1. Calculate with whole numbers and familiar fractions, decimals and percentages for work | * + Interpretation of whole numbers, fractions, decimals, percentages and rates
	+ Calculations involving several steps
	+ Calculation with whole numbers and routine or familiar fractions, decimals and percentages
	+ Conversion between equivalent forms of fractions, decimals and percentages
	+ Application of order of operations to solve multi-step calculations
	+ Application of problem-solving strategies
	+ Making estimations to check reasonableness of problem-solving process, outcome and its appropriateness to the context and task
	+ Use of formal and informal mathematical language and symbolism to communicate the result of a task
 | * Oral
* Written
* Practical test
* Observation
 |
| 2. Estimate, measure and calculate with routine metric measurements for work | * Selection and interpretation of measurement information in workplace tasks and texts
* Identification and selection of routine measuring equipment
* Estimation and making measurements using correct units
* Estimation and calculation using routine measurements
* Performing conversions between routinely used metric units
* Using problem solving processes to undertake tasks
* Recording information using mathematical language and symbols
 | * Oral
* Written
* Practical test
* Observation
 |
| 3. Use routine maps and plans for work | * Identification of features in routine maps and plans
* Symbols and keys used in routine maps and plans
* Identification and interpretation of orientation of map to North
* Demonstrate understanding of direction and location
* Apply simple scale to estimate length of objects, or distance to location or object
* Give and receive directions using both formal and informal language
 | * Oral
* Written
* Practical test
* Observation
 |
| 4. Interpret, draw and construct 2D and 3D shapes for work | * Identify two dimensional shapes and routine three-dimensional shapes in everyday objects and in different orientations
* Explain the use and application of shapes
* Use formal and informal mathematical language and symbols to describe and compare the features of two-dimensional shapes and routine three-dimensional shapes
* Identify common angles
* Estimate common angles in everyday objects
* Use formal and informal mathematical language to describe and compare common angles
* Use common geometric instruments to draw two dimensional shapes
* Construct routine three dimensional objects from given nets
 | * Oral
* Written
* Practical test
* Observation
 |
| 5. Interpret routine tables, graphs and charts for work | * Identify routine tables, graphs and charts in predominately familiar texts and contexts
* Identify common types of graphs and their different uses
* Identify features of tables, graphs and charts
* Locate specific information
* Perform calculations to interpret information
* Explain how statistics can inform and persuade
* Identify misleading statistical information
* Discuss information relevant to the workplace
 | * Oral
* Written
* Practical test
* Observation
 |
| 6. Collect data and construct routine tables and graphs for work | * Identify features of common tables and graphs
* Identify uses of different tables and graphs
* Determine data and variables to be collected
* Determine audience
* Select a method to collect data
* Collect data
* Collate information in a table
* Determine suitable scale and axes
* Draft and draw graph to present information
* Check that data meets the expected results and context
* Report or discuss information using formal and informal mathematical language
 | * Oral
* Written
* Practical test
* Observation
 |
| 7. Use basic functions of calculator | * Identify and use keys for basic functions on a calculator
* Calculate using whole numbers, money and routine decimals and percentages
* Calculate with routine fractions and percentages
* Apply order of operations to solve multi-step calculations
* Interpret display and record result
* Make estimations to check reasonableness of problem-solving process, outcome and its appropriateness to the context and task
* Use formal and informal mathematical language and appropriate symbolism and conventions to communicate the result of the task
 | * Oral
* Written
* Practical test
* Observation
 |

**Suggested Delivery Methods**

* Group discussions
* Demonstration by trainer
* Practical work by trainee
* Exercises

**Recommended Resources**

* Calculators
* Rulers, pencils, erasers
* Charts with presentations of data
* Graph books
* Dice
* Internet

## DIGITAL LITERACY

**UNIT CODE:** WL/CU/WLMA/BC/03/5/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate digital literacy

**Duration of Unit:** 45 hours

**Unit Description**

This unit describes competencies required to use a computer and other digital devices for the purposes of communication, work performance and management at the workplace.

**Summary of Learning Outcomes**

1. Identify computer software and hardware
2. Apply security measures to data, hardware, software in automated environment
3. Apply computer software in solving tasks
4. Apply internet and email in communication at workplace
5. Apply desktop publishing in official assignments
6. Prepare presentation packages

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Identify computer hardware and software
 | * Concepts of ICT
* Functions of ICT
* History of computers
* Components of a computer
* Classification of computers
 | * Written tests
* Oral presentation
* Observation
 |
| 1. Apply security measures to data, hardware and software
 | * Data security and control
* Security threats and control measures
* Types of computer crimes
* Detection and protection against computer crimes
* Laws governing protection of ICT
 | * Written tests
* Oral presentation
* Observation
* Project
 |
| 1. Apply computer software in solving tasks
 | * Operating system
* Word processing
* Spread sheets
* Data base design and manipulation
* Data manipulation, storage and retrieval
 | * Oral questioning
* Observation
* Project
 |
| 1. Apply internet and email in communication at workplace
 | * Computer networks
* Network configurations
* Uses of internet
* Electronic mail (e-mail) concept
 | * Oral questioning
* Observation
* Oral presentation
* Written report
 |
| 1. Apply desktop publishing in official assignments
 | * Concept of desktop publishing
* Opening publication window
* Identifying different tools and tool bars
* Determining page layout
* Opening, saving and closing files
* Drawing various shapes using DTP
* Using colour pellets to enhance a document
* Inserting text frames
* Importing and exporting text
* Object linking and embedding
* Designing of various publications
* Printing of various publications
 | * Oral questioning
* Observation
* Oral presentation
* Written report
* Project
 |
| 1. Prepare presentation packages
 | * Types of presentation packages
* Procedure of creating slides
* Formatting slides
* Presentation of slides
* Procedure for editing objects
 | * Oral questioning
* Observation
* Oral presentation
* Written report
* Project
 |

**Suggested Delivery Methods**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practical work by trainee
* Viewing of related videos
* Project
* Group discussions

**Recommended Resources**

* Desk top computers
* Laptop computers
* Other digital devices
* Printers
* Storage devices
* Internet access
* Computer software

## ENTREPRENEURIAL SKILLS

**UNIT CODE:** WL/CU/WLMA/BC/04/5/A

**Relationship to occupational standards**

This unit addresses the unit of competency: Demonstrate entrepreneurial skills

**Duration of unit:** 70 hours

**Unit description**

This unit describes the competencies critical to demonstration of entrepreneurial aptitudes. It involves, developing business innovation strategies, developing new markets, customer base, expanding employed capital and undertaking regional/county expansion while retaining motivated staff.

**Summary of Learning Outcomes**

1. Develop business innovation strategies
2. Develop new products/ markets
3. Expand customers and product lines
4. Motivate all staff/workers
5. Expand employed capital base
6. Undertake regional/county business expansion

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Develop business Innovation strategies
 | * Innovation in business
* Business innovation strategies
* Creativity for business development
* New technologies in entrepreneurship
* Linkages with other entrepreneurs
* Setting strategic directions
* New ideas and approaches
* Entrepreneurial skills development
* Market trends
* Monitoring and anticipating market trends
* Products and processes in entrepreneurship
* Business conventions ad exhibitions
* Business growth refocus
 | * Observation
* Case studies
* Individual/group assignments
* Projects
* Written
* Oral
 |
| 1. Develop new products/ markets
 | * Feasibility study for new products
* Identifying new sources of raw material and resources
* New target markets/customers
* Increasing products and services
* Marketing improvement
* Intrapreneurship and business growth
 | * Observation
* Case studies
* Individual/group assignments
* Projects
* Written
* Oral
 |
| 1. Expand customers and product lines
 | * Market demand
* Regulatory environment
* Creating product and services competitive advantages
* Creating royal client base
* Identifying and maintain new customers and markets
* Advance product/ service promotions
* Advance market expansion
* Small business records management
* Book keeping and auditing for small businesses
* Computer application software and programmes
* ICT in customer and product diversification
 | * Oral
* Observation
* Case studies
* Individual/group assignments
* Projects
* Written
 |
| 1. Motivate staff/workers
 | * Motivation of workers
* Communication at workplace for motivation purpose
* Problem solving
* Conflict resolution at place of work
* Good staff/workers relation
* Team building and team work
* Staff development and enhancement
* Culture of continuous improvement
 | * Observation
* Case studies
* Individual/group assignments
* Projects
* Written
 |
| 1. Expand employed capital base
 | * Employed capital in business
* Business share holdings
* Types of shares
* Shares diversification
* Role of shareholders
* Entrepreneurship
* Increasing products and services
 | * Observation
* Case studies
* Individual/group assignments
* Projects
* Written
* Oral
 |
| 1. Undertake county/ regional business expansion
 | * Region/ county identification process
* Regional/ county laws and regulation
* Business regional/county expansion
* Regional/ County business expansion
* Innovation in business
* Business expansion and diversification
* Resources for regional/county expansion
* Small business Strategic Plan
* Computer software in business development
* ICT and business growth
 | * Observation
* Case studies
* Individual/group assignments
* Projects
* Written
* Oral
 |

**Suggested Delivery Methods**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practice by trainee
* Role play
* Case study

**Recommended Resources**

* Case studies for small businesses
* Business plan templates
* Laptop/ desktop computers
* Internet
* Telephone
* Writing materials

## EMPLOYABILITY SKILLS

**UNIT CODE:** WL/CU/WLMA/BC/05/5/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate employability skills

**Duration of Unit:** 50 hours

**Unit Description**

This unit covers competencies required to demonstrate employability skills. It involves conducting self-management, demonstrating interpersonal communication, critical safe work habits, leading a workplace team, planning and organizing work, maintaining professional growth and development, demonstrating workplace learning, problem solving skills and managing ethical performance.

**Summary of Learning Outcomes**

1. Conduct self-management

2. Demonstrate interpersonal communication

3. Demonstrate critical safe work habits

4. Lead small teams

5. Plan and organize work

6. Maintain professional growth and development

7. Demonstrate workplace learning

8. Demonstrate problem solving skills

9. Demonstrate workplace ethics

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Conduct self-management
 | * Self-awareness
* Formulating personal vision, mission and goals
* Strategies for overcoming life challenges
* Emotional intelligence
* Assertiveness versus aggressiveness
* Expressing personal thoughts, feelings and beliefs
* Developing and maintaining high self-esteem
* Developing and maintaining positive self-image
* Articulating ideas and aspirations
* Accountability and responsibility
* Good work habits
* Self-awareness
* Self-development
* Financial literacy
* Healthy lifestyle practices
 | * Observation
* Written
* Oral interview
* Third party report
 |
| 1. Demonstrate interpersonal communication
 | * Meaning of interpersonal communication
* Listening skills
* Types of audience
* Writing skills
* Reading skills
* Meaning of empathy
* Understanding customers’ needs
* Establishing communication networks
* Sharing information
 | * Observation
* Written
* Oral interview
* Third party report
 |
| 1. Demonstrate critical safe work habits
 | * Stress and stress management
* Punctuality and time consciousness
* Leisure
* Integratingpersonal objectives into organizational objectives
* Resources utilization
* Setting work priorities
* HIV and AIDS
* Drug and substance abuse
* Handling emerging issues
 | * Observation
* Written
* Oral interview
* Third party report
 |
| 1. Lead a small team
 | * Leadership qualities
* Team building
* Determination of team roles and objectives
* Team performance indicators
* Responsibilities in a team
* Forms of communication
* Complementing team activities
* Gender and gender mainstreaming
* Human rights
* Maintaining relationships
* Conflicts and conflict resolution
 | * Observation
* Oral interview
* Written
* Third party report
 |
| 1. Plan and organize work
 | * Functions of management
* Planning
* Organizing
* Time management
* Decision making process
* Task allocation
* Evaluating work activities
* Resource utilization
* Problem solving
* Collecting and organising information
 | * Observation
* Oral interview
* Written
* Third party report
 |
| 1. Maintain professional growth and development
 | * Opportunities for professional growth
* Assessing training needs
* Licenses and certifications for professional growth and development
* Pursuing personal and organizational goals
* Identifying work priorities
* Recognizing career advancement
 | * Observation
* Oral interview
* Written
* Third party report
 |
| 1. Demonstrate workplace learning
 | * Managing own learning
* Contributing to the learning community at the workplace
* Cultural aspects of work
* Variety of learning context
* Application of learning
* Safe use of technology
* Identifying opportunities
* Generating new ideas
* Workplace innovation
* Performance improvement
* Handling emerging issues
* Future trends and concerns in learning
 | * Observation
* Oral interview
* Written
* Third party report
 |
| 1. Demonstrate problem solving skills
 | * Problem identification
* Problem solving
* Application of problem-solving strategies
* Resolving customer concerns
 | * Observation
* Oral interview
* Written
* Third party report
 |
| 1. Demonstrate workplace ethics
 | * Meaning of ethics
* Ethical perspectives
* Principles of ethics
* Values and beliefs
* Ethical standards
* Organization code of ethics
* Common ethical dilemmas
* Organization culture
* Corruption, bribery and conflict of interest
* Privacy and data protection
* Diversity, harassment and mutual respect
* Financial responsibility/accountability
* Etiquette
* Personal and professional integrity
* Commitment to jurisdictional laws
* Emerging issues in ethics
 | * Observation
* Oral interview
* Written
* Third party report
 |

**Suggested Methods of Delivery**

* Instructor lead facilitation of theory
* Demonstrations
* Simulation/Role play
* Group Discussion
* Presentations
* Projects
* Case studies
* Assignments

**Recommended Resources**

* Computers
* Stationery
* Charts
* Video clips
* Audio tapes
* Radio sets
* TV sets
* LCD projectors

## ENVIRONMENTAL LITERACY

**UNIT CODE:** WL/CU/WLMA/BC/06/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Demonstrate environmental literacy

**Duration of Unit:** 25 hours

**Unit Description**

This unit describes the competencies required to control environmental hazard, control environmental pollution, comply with workplace sustainable resource use, evaluate current practices in relation to resource usage, identify environmental legislations/conventions for environmental concerns, implement specific environmental programs and monitor activities on environmental protection/programs.

**Summary of Learning Outcomes**

1. Control environmental hazard
2. Control environmental Pollution
3. Demonstrate sustainable resource use
4. Evaluate current practices in relation to resource usage
5. Identify Environmental legislations/conventions for environmental concerns
6. Implement specific environmental programs
7. Monitor activities on Environmental protection/Programs

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** |  **Content** | **Methods of assessment** |
| 1. Control environmental hazard
 | * Purposes and content of Environmental Management and Coordination Act 1999
* Purposes and content of Solid Waste Act
* Storage methods for environmentally hazardous materials
* Disposal methods of hazardous wastes
* Types and uses of PPE in line with environmental regulations
* Occupational Safety and Health Standards (OSHS)
 | * Written questions
* Oral questions
* Observation of work procedures
 |
| 1. Control environmental Pollution control
 | * Types of pollution
* Environmental pollution control measures
* Types of solid wastes
* Procedures for solid waste management
* Different types of noise pollution
* Methods for minimizing noise pollution
 | * Written questions
* Oral questions
* Observation of work procedures
* Role play
 |
| 1. Demonstrate sustainable resource use
 | * Types of resources
* Techniques in measuring current usage of resources
* Calculating current usage of resources
* Methods for minimizing wastage
* Waste management procedures
* Principles of 3Rs (Reduce, Reuse, Recycle)
* Methods for economizing or reducing resource consumption
 | * Written questions
* Oral questions
* Observation of work procedures
* Role play
 |
| 1. Evaluate current practices in relation to resource usage
 | * Collection of information on environmental and resource efficiency systems and procedures,
* Measurement and recording of current resource usage
* Analysis and recording of current purchasing strategies.
* Analysis of current work processes to access information and data
* Identification of areas for improvement
 | * Written questions
* Oral questions
* Observation of work procedures
* Role play
 |
| 1. Identify environmental legislations/conventions for environmental concerns
 | * Environmental issues/concerns
* Environmental legislations /conventions and local ordinances
* Industrial standard /environmental practices
* International Environmental Protocols (Montreal, Kyoto)
* Features of an environmental strategy
 | * Written questions
* Oral questions
* Observation of work procedures
 |
| 1. Implement specific environmental programs
 | * Community needs and expectations
* Resource availability
* 5 s of good housekeeping
* Identification of programs/Activities
* Setting of individual roles /responsibilities
* Resolving problems /constraints encountered
* Consultation with stakeholders
 | * Written questions
* Oral questions
* Observation of work procedures
* Role play
 |
| 1. Monitor activities on Environmental protection/Programs
 | * Periodic monitoring and Evaluation of activities
* Gathering feedback from stakeholders
* Analysing data gathered
* Documentation of recommendations and submission
* Setting of management support systems to sustain and enhance the program
* Monitoring and reporting of environmental incidents to concerned /proper authorities
 | * Oral questions
* Written tests
* Practical test
* Observation
 |

**Suggested Delivery Methods**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practical work by trainee
* Viewing of related videos

**Recommended Resources**

* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Environmental Management and Coordination Act 1999
* Machine/equipment manufacturer’s specifications and instructions
* Personal Protective Equipment (PPE)
* ISO standards
* Ccompany environmental management systems (EMS)
* Montreal Protocol
* Kyoto Protocol

## OCCUPATIONAL SAFETY AND HEALTH PRACTICES

**UNIT CODE:** WL/CU/WLMA/BC/07/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Demonstrate occupational safety and health practices

**Duration of Unit:** 25 hours

**Unit Description**

This unit describes the competencies required to comply with regulatory and organizational requirements for occupational safety and health.

**Summary of Learning Outcomes**

1. Identify workplace hazards and risk
2. Identify and implement appropriate control measures to hazards and risks
3. Implement OSH programs, procedures and policies/guidelines

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Identify workplace hazards and risks
 | * Identification of hazards in the workplace and/or the indicators of their presence
* Evaluation and/or work environment measurements of OSH hazards/risk existing in the workplace is conducted by
* Authorized personnel or agency
* Gathering of OHS issues and/or concerns raised
 | * Oral questions
* Written tests
* Observation of trainees identify hazards and risks
 |
| 1. Identify and implement appropriate control measure to hazards and risks
 | * Prevention and control measures, including use of PPE (personal protective equipment) for specific hazards are identified and implemented
* Appropriate risk controls based on result of OSH hazard evaluation is recommended
* Contingency measures, including emergency procedures during workplace incidents and emergencies are recognized and established in accordance with organization procedures
 | * Oral questions
* Written tests
* Practical test
* Observation of implementation of control measures
 |
| 1. Implement OSH

 programs, procedures and policies/guidelines | * Providing information to work team about company OHS program, procedures and policies/guidelines
* Participating in implementation of OSH procedures and policies/ guidelines
* Training of team members and advice on OSH standards and procedures
* Implementation of procedures for maintaining OSH-related records
 | * Oral questions
* Written tests
* Practical test
* Observation
 |

**Suggested Delivery Methods**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practical work by trainee
* Viewing of related videos

**Recommended Resources**

* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Machine/equipment manufacturer’s specifications and instructions
* Personal Protective Equipment (PPE) e.g.
* Mask
* Face mask/shield
* Safety boots
* Safety harness
* Arm/Hand guard, gloves
* Eye protection (goggles, shield)
* Hearing protection (ear muffs, ear plugs)
* Hair Net/cap/bonnet
* Hard hat
* Face protection (mask, shield)
* Apron/Gown/coverall/jump suit
* Anti-static suits
* High-visibility reflective vest

# COMMON UNITS OF LEARNING

## PRINCIPLES OF ECOLOGY

**UNIT CODE:** WL/CU/WLMA/CC/01/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Apply principles of ecology**.**

**Duration of Unit:** 70 hours

**Unit Description**

This unit covers the competencies required to apply principles of ecology. It involves classifying ecosystems, identifying basic ecosystem cycles, exploring ecosystem interactions and ecosystem changes.

**Summary of Learning Outcomes**

1. Classify ecosystems
2. Identify basic ecosystem cycles
3. Explore ecosystem interactions
4. Explore ecosystem changes

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Classify ecosystems
 | * Concepts and terms of ecology
* Importance of studying ecology
* Levels of studying ecology
* Types of ecosystems
* Structures and functions of ecosystem
 | * Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Identify ecosystem cycles
 | * Energy flow in ecosystem
	+ Food chains
	+ Food webs
* Hydrological cycles
* Carbon cycles
 | * Written tests
* Oral questioning
* Interview
* Third party report
* Oral questioning
 |
| 1. Explore ecosystem interactions
 | * Concepts of species interactions
* Species interactions
	+ Predation
	+ Parasitism
	+ Mutualism
	+ Adaptations
* Process of ecological succession
* Significance of ecological succession
 | * Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Explore ecosystem changes
 | * Concepts in ecosystem changes
* Causes/drivers of ecosystem changes
* Impacts of ecosystem changes
* Ecosystem degradation and restoration
 | * Written tests
* Oral questioning
* Interview
* Third party report
 |

**Suggested Methods of Instruction**

* Interactive lecture
* Questions and answer methods
* Field training
* Direct instruction
* Demonstrations
* Group discussions
* Presentations
* Videos
* Assignments
* Role play
* Case studies

**Recommended Resources**

* Computers
* Stationery
* Charts/posters/Magazines
* Video clips
* LCD projector
* Whiteboards
* Training kits
* Transport

## WILDLIFE CONSERVATION AND MANAGEMENT

**UNIT CODE:** WL/CU/WLMA/CC/02/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Apply wildlife conservation and management principles

**Duration of Unit:** 70 hours

**Unit Description**

This unit covers the competencies required to apply wildlife conservation and management principles. It involves exploring: concepts of wildlife conservation and management, exploring habitat types, policy and legal framework, wildlife conservation institutions and multilateral environmental agreements in wildlife conservation and management.

**Summary of Learning Outcomes**

1. Explore concepts of wildlife conservation and management
2. Explore habitat types
3. Explore policy and legal framework in wildlife conservation and management
4. Explore wildlife conservation institutions in Kenya

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Explore concepts of wildlife conservation and management
 | * Concepts and terms used in wildlife conservation and management
* History of wildlife conservation and management in Kenya
* Values of wildlife conservation to the society and the nation
* Conservation philosophy
* Conservation models
* Categories of protected areas
* Informal systems of conservation
* Conservation challenges
 | * Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Explore habitat types
 | * Major wildlife habitats of Kenya
	+ Savannah
	+ Montane, Equitorial and Mangrove Forests
	+ Marine
	+ Fresh water
* Threats to wildlife habitat
* Wildlife Habitat management practices
	+ Fires
	+ Fencing
	+ Legal protection
	+ Restoration
	+ Wildlife Population control
 | * Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Explore policy and legal framework in wildlife conservation and management
 | * Term and concepts used in wildlife legislation
* Importance of law and policy in wildlife conservation
* Structure and functions of the arms of government in Kenya
* Wildlife Act and other related legislations including:

(EMCA, Water Act, Forest Act, Fisheries Act, Land Act, Physical planning Act, County government Act),* International agreements and protocols:

 CITES, CBD, RAMSAR Convention, Biosphere Reserves, CMS | * Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Explore wildlife conservation institutions
 | * Roles of National and International wildlife institutions in wildlife conservation
* Ministry in Charge of wildlife
* Kenya Wildlife Service
* Wildlife clubs of Kenya
* Kenya wildlife conservancies association
* United Nations Environment Program (UNEP)
* World Conservation Union (IUCN)
* World Wide Fund for Nature (WWF)
* African Wildlife Foundation (AWF)
* International Fund of Animal Welfare (IFAW)
 | * Written tests
* Oral questioning
* Interview
* Third party report
 |

**Suggested Methods of Instruction**

* Interactive lecture
* Questions and answer methods
* Direct instruction
* Demonstrations
* Group discussion
* Presentations
* Videos
* Assignments
* Role play
* Case studies

**Recommended Resources**

* Computers
* Stationery
* Charts/posters/Magazines
* Video clips
* LCD projector
* Whiteboards
* Acts of parliaments
* Conventions, treaties and protocol
* Wildlife guidebooks
* Maps
* GPS
* Training kits
* Teaching aids
* Transport

## WILDERNESS SURVIVAL TECHNIQUES

**UNIT CODE:** WL/CU/WLMA/CC/03/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Apply wilderness survival techniques

**Duration of Unit:** 100 hours

**Unit Description**

This unit covers the competencies required to apply wilderness survival techniquesin the wild environment. It involves observing safety and health rules, identifying and mitigating potential safety risks and responding to safety and health emergencies. It also entails demonstrating bush craft techniques, navigation, and leadership and teamwork skills in the wild environment

**Summary of Learning Outcomes**

1. Observe safety and health rules
2. Identify and mitigate potential safety risks
3. Respond to safety and health emergencies
4. Navigate in the wild environment
5. Demonstrate bush craft techniques

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Observe safety and health rules
 | * Term and concepts used in wilderness survival
* Background/History of survival in the wilderness
* Psychology of survival in the wilderness
* Physiological needs of survival
* Importance of survival in the wilderness
* Safety and health guidelines for wilderness survival
* Survival in the wilderness
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Identify and mitigate potential safety risks
 | * Outbound activities
* Hazards associated with outbound activities
* Hazard management in outbound activities
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Respond to safety and health emergencies
 | * Wilderness ethics
* Personal hygiene
* Personal protective gears
* Common camping diseases
* Camping hygiene and sanitation
* First tools and techniques
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Navigate in the wilderness
 | * Concepts and terms used in wilderness navigation
* Map reading and interpretation
* Navigation techniques
* Navigation tools and equipment
* Wilderness communication
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Demonstrate bush craft techniques
 | * Concepts and terms used bush craft techniques
* Team building
* Leadership skills
* Bush craft techniques
* Care and maintenance of tools and equipment
* Bush craft tools and equipment
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |

**Suggested Methods of Instruction**

* Interactive lecture
* Questions and answer methods
* Direct instruction
* Demonstrations
* Group discussion
* Presentations
* Videos
* Assignments
* Role play
* Case studies

**Recommended Resources**

* Computers
* Stationery
* Charts/posters/Magazines
* Video clips
* LCD projector
* Whiteboards
* Maps
* GPS
* Camping equipment
* Training kits
* Teaching aids
* Transport

# CORE UNITS OF LEARNING

## NATURAL HISTORY OF AMPHIBIANS AND REPTILES

**UNIT CODE:** WL/CU/WLMA/CR/01/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Provide herpertological services

**Duration of Unit:** 70 hours

**Unit description:**

This unit covers the competencies required to provide herpetological services in wildlife conservation and management. It involves classifying amphibians and reptiles, interpreting their behaviour and identifying their importance.

**Summary of Learning Outcomes**

1. Classify amphibians and reptiles
2. Interpret amphibians’ and reptiles’ behaviour
3. Evaluate importance of amphians and reptiles

**Learning Outcomes, Content and Methods of Assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment**  |
| 1. Classify amphibians and reptiles
 | * Terms and concept of natural history of amphibians and reptiles
* Origin of amphibians and reptiles
* Evolution of amphibians and reptiles
* Characteristics of amphibians and reptiles
* Classification of amphibians and reptiles
* Classification of selected

Amphibians and Reptiles* Techniques used in identification of amphibians and reptiles
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Interpret amphibians and reptiles’ behaviour
 | * Concepts and terms inamphibians and reptiles’ behaviour
* Feeding behaviour in amphibians and reptiles’
* Reproduction and mating systems of amphibians and reptiles
* Categories of social behaviour of amphibians and reptiles
* Species life span of amphibians and reptiles
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Evaluate importance of amphibians and reptiles
 | * Economic values
* Ecological values
* Socio-cultural values
* Aesthetics values
* Medicinal values
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |

**Suggested Methods of Instruction**

* Interactive lecture
* Questions and answer methods
* Direct instruction
* Demonstrations
* Group discussion
* Presentations
* Videos
* Assignments
* Case studies

**Recommended Resources**

* Computers
* Stationery
* Charts/posters/Magazines
* Video clips
* LCD projector
* Whiteboards
* Wildlife guidebooks
* Training kits
* Teaching aids

## NATURAL HISTORY OF BIRDS

**UNIT CODE:** WL/CU/WLMA/CR/02/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Provide ornithological services

**Duration of Unit:** 70 hours

**Unit Description**

This unit covers the competencies required to provide ornithological services in wildlife conservation and management. It involves classifying birds, interpreting their behaviour, monitoring population’s andidentifying the importance of birds.

**Summary of Learning Outcomes**

1. Classify birds
2. Interpret birds’ behaviour
3. Monitor bird’s population
4. Identify importance of birds

**Learning Outcomes, Content and Methods of Assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment**  |
| 1. Classify birds
 | * Concepts and terms of natural history of birds
* Origin of birds
* Evolution of birds
* Characteristics of birds
* Classification of birds
* Techniques used in identification of birds
* Classification of selected species of birds
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Interpret birds’ behaviour
 | * Concepts and terms in birds’ behaviour
* Feeding behaviour in birds’
* Reproduction and mating systems in birds
* Categories of social behaviour of birds
* Species life span of birds
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Monitor birds’ populations
 | * Terms and concepts in population management
* Distribution and abundance of birds
* Adaptation of birds
* Population monitoring techniques
* Role of bird’s conservation organiziations (RAMSAR convention, IBAs, AEWA)
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Identify importance of birds
 | * Economic values
* Ecological values
* Socio-cultural values
* Aesthetics values
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |

**Suggested Methods of Instruction**

* Interactive lecture
* Questions and answer methods
* Direct instruction
* Demonstrations
* Group discussion
* Presentations
* Videos
* Assignments
* Case studies

**Recommended Resources**

* Computers
* Stationery
* Charts/posters/Magazines
* Video clips
* LCD projector
* Whiteboards
* Wildlife guidebooks
* Training kits
* Teaching aids
* Transport

## NATURAL HISTORY OF MAMMALS

**UNIT CODE:** WL/CU/WLMA/CR/03/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Provide mammological services

**Duration of Unit:** 70 hours

**Unit Description**

This unit covers the competencies required to provide mammology services in wildlife conservation and management. It involves classifying mammals, interpreting their behaviour and identifying the importance of mammals.

**Summary of Learning Outcomes**

1. Classify mammals
2. Interpret mammals’ behaviour
3. Identify importance of mammals

**Learning Outcomes, Content andmethods of Assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment**  |
| 1. Classify mammals
 | * Terms and concept of natural history of mammals
* Origin of mammals
* Evolution of mammals
* Characteristics of mammals
* Classification of mammals
* Techniques used in identification of mammals
* Classification of selected species of mammals
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Interpret mammals’ behaviour
 | * Concepts and terms in mammals’ behaviour
* Feeding behaviour in mammals’
* Reproduction and mating systems
* Categories of social behaviour of mammals
* Species life span
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Identify importance of mammals
 | * Economic values
* Ecological values
* Socio-cultural values
* Aesthetics values
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |

**Suggested Methods of Instruction**

* Interactive lecture
* Questions and answer methods
* Direct instruction
* Demonstrations
* Group discussion
* Presentations
* Videos
* Assignments
* Case studies

**Recommended Resources**

* Computers
* Stationery
* Charts/posters/Magazines
* Video clips
* LCD projector
* Whiteboards
* Wildlife guidebooks
* Training kits
* Teaching aids

## TAXIDERMY AND MUSEUM TECHNIQUES

**UNIT CODE:** WL/CU/WLMA/CR/04/5/A

**Relationship to Occupational Standards:** Provide taxidermy and museum services

**Duration of Unit:** 70 hours

**Unit Description**

This unit covers the competencies required to provide taxidermy and museum services. It involves handling laboratory chemicals and equipment, collecting and preserving museum specimens, performing taxidermy procedures, processing museum specimens and carrying out post service procedures.

**Summary of Learning Outcomes**

1. Handle laboratory chemicals and equipment
2. Collect and preserve museum specimens
3. Perform taxidermy procedures
4. Process museum specimens
5. Carry out post service procedures

**Learning Outcomes, Content and Methods of Assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment**  |
| 1. Handle laboratory chemicals and equipment
 | * Concepts of museum and taxidermy techniques
* Significance of taxidermy and museum specimens
* Safety, health and care of laboratory chemicals and equipment
* Laboratory chemicals and equipment
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Collect and preserve museum specimens
 | * Methods of collecting museum specimens
* Preservation of museum specimen
* Accessioning of museum specimen
* Safety measures in collecting museum specimen
 | * Observation
* Written tests
* Oral questioning
* Interview
* Portfolio
* Third party report
 |
| 1. Perform taxidermy procedure
 | * Concepts and terms in taxidermy techniques
* Guidelines governing taxidermy and museum collection
* Types of taxidermy
* Safety procedures in taxidermy
* Tools, chemicals and materials used in taxidermy
* Procedure for performing taxidermy
* Mounting and display of taxidermy and museum specimen
 | * Observation
* Written tests
* Oral questioning
* Interview
* Portfolio
* Third party report
 |
| 1. Process museum specimen
 | * Methods of processing museum specimens
* Chemicals used in processing museum specimens
* Storage of museum specimen
* Care and maintenance of museum specimens
 | * Observation
* Written tests
* Oral questioning
* Interview
* Portfolio
* Third party report
 |
| 1. Carry out post service procedures
 | * Procedure for cleaning tools and equipment used in taxidermy
* Methods of disposing museum and taxidermy waste
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |

**Suggested Methods of Instruction**

* Interactive lecture
* Questions and answer methods
* Field training
* Direct instruction
* Demonstrations
* Group discussion
* Presentations
* Videos
* Assignments

**Recommended Resources**

* Computers
* Stationery
* Charts/posters/Magazines
* Video clips
* LCD projector
* Whiteboards
* Training kits

## PLANT TAXONOMY AND ECOLOGY

**UNIT CODE:** WL/CU/WLMA/CR/05/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Provide plant taxonomy services

Duration of Unit: 70 hours

**Unit Description**

This unit covers the competencies required to provide plant taxonomic services in wildlife conservation and management. It involves classifying plants, determining the distribution of plants, identifying their importance and conservation status. It also entails demonstrating herbarium techniques.

**Summary of Learning Outcomes**

1. Classify plants
2. Determine plant distribution
3. Identify the importance of plants
4. Assess plant conservation status
5. Demonstrate herbarium techniques

**Learning Outcomes, Content and Methods of Assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment**  |
| 1. Classify plants
 | * Concepts and terms in plant taxonomy
* History of development of plant taxonomy
* Principles of plant taxonomy
* General characteristics of plants
* Plant classification
* Plant identification techniques
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Determine plant distribution
 | * Factors affecting distribution of plants
* Vegetation types of Kenya
* Invasive plant species (indigenous and alien)
* Impacts of invasive plant species
* Control of invasive plant species
* Adaptive features of selected plant species
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Identify the importance of plants
 | * Ecological values
* Economic values
* Ethno-botanic values
* Socio-cultural values
* Aesthetic values
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Assess plant conservation status
 | * Plant abundance and cover
* Threats to plants
* Conservation status of selected plant species in East Africa
* Priorities in conservation of plants
* Strategies in conservation of plants
* Conventions/ treaties in conservation
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Demonstrate herbarium techniques
 | * Plant specimen collection
* Plant species preservation and storage
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |

**Suggested Methods of Instruction**

* Interactive lecture
* Questions and answer methods
* Direct instruction
* Demonstrations
* Group discussion
* Presentations
* Videos
* Assignments
* Case studies

**Recommended Resources**

* Computers
* Stationery
* Charts/posters/Magazines
* Video clips
* LCD projector
* Whiteboards
* Plant guidebooks
* Training kits
* Teaching aids
* Herbarium
* Botanic gardend
* Laboratory

## WILDLIFE HABITATS MONITORING

**UNIT CODE:** WL/CU/WLMA/CR/06/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Monitorwildlife habitat

**Unit Description**

This unit covers the competencies required to monitor wildlife habitats. It involves mapping wildlife habitats, assessing habitat status and monitoring habitat threats.

**Duration of Unit:**70 hours

**Summary of Learning Outcomes**

1. Map wildlife habitats
2. Assess habitat status
3. Monitor threats to habitat

**Learning Outcomes, Content and Methods of Assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment**  |
| 1. Map wildlife habitats
 | * Concepts and terms of mapping
* Map reading and interpretation
* Tools for mapping
* Map generation
 | * Observation
* Written tests
* Oral questioning
* Interview
* Portfolio
* Third party report
 |
| 1. Assess habitat status
 | * Concepts and terms of habitat assessment
* Basic elements of wildlife habitats
* Classification of wildlife habitats
* Habitat monitoring techniques
 | * Observation
* Written tests
* Oral questioning
* Interview
* Portfolio
* Third party report
 |
| 1. Monitor threats to habitat
 | * Concepts and types of threats to habitat
* Causes of threats to habitat
* Impacts of threats to habitat
* Approaches/Techniques and mitigation to habitat threats
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |

**Suggested Methods of Instruction**

* Interactive lecture
* Questions and answer methods
* Field training
* Direct instruction
* Demonstrations
* Group discussion
* Presentations
* Videos
* Assignments

**Recommended Resources**

* Computers
* Stationery
* Charts/posters/Magazines
* Video clips
* LCD projector
* Whiteboards
* Training kits
* Mapping tools

## WILDLIFE MANAGEMENT TECHNIQUES

**UNIT CODE:** WL/CU/WLMA/CR/07/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Apply wildlife management techniques

**Duration of Unit:** 70 hours

**Unit Description**

This unit covers the competencies required to apply wildlife management techniques. It involves undertaking wildlife counts, sexing and aging; tracking, capturing and restraining of wildlife. It also entails applying wildlife husbandry techniques in captive wildlife.

**Summary of Learning Outcomes**

1. Undertake wildlife counts
2. Sex and age wildlife
3. Track wildlife
4. Capture and restrain wildlife
5. Apply wildlife husbandry techniques

**Learning Outcomes, Content and Methods of Assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Undertake wildlife counts
 | * Concepts and terms of wildlife counts
* Importance of animal count
* Animal counting techniques
* Animal identification
* Presentation of wildlife count data
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Sex and age wildlife
 | * Concepts and terms in wildlife sexing and aging
* Species identification
* Species behaviour
* Species sexing
* Species aging
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Track wildlife
 | * Concepts and terms in wildlife tracking
* Wildlife tracking tools
* Wildlife tracking protocols
* Wildlife tracking signs
* Tracking methods and techniques
* Presentation of wildlife tracking data
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Capture and restrain wildlife
 | * Concepts and terms of wildlife capture and restraint
* Methods of capture and restraint
* Methods of stabilizing captured species
* Wildlife capture and stabilization challenges
* Safety precautions
* Ethics and animal welfare issues
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Apply wildlife husbandry techniques
 | * Concept of wildlife husbandry
* Husbandry techniques
* Hygiene and sanitation
* Occupational health and safety of animal handlers
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |

**Suggested Methods of Instruction**

* Interactive lecture
* Questions and answer methods
* Field training
* Direct instruction
* Demonstrations
* Group discussion
* Presentations
* Videos
* Assignments
* Role play

**Recommended Resources**

* Computers
* Stationery
* Charts/posters/Magazines
* Video clips
* LCD projector
* Whiteboards
* Training kits

## HUMAN-WILDLIFE INTERACTIONS

**UNIT CODE:** WL/CU/WLMA/CR/08/5/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Manage human-wildlife interactions

**Duration of Unit:** 70 hours

**Unit Description**

This unit covers the competencies required to manage human-wildlife interactions. It involves conducting wildlife conservation education and creating awareness, mapping human-wildlife conflict hotspots, mitigating human wildlife conflicts, integrating wildlife management into the community and facilitating compensation.

**Summary of Learning Outcomes**

1. Conduct wildlife conservation education
2. Create wildlife conservation awareness
3. Collect human-wildlife conflict data
4. Mitigate human- wildlife conflicts
5. Integrate wildlife management into the community
6. Facilitate compensation

**Learning Outcomes, Content and Methods of Assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment**  |
| 1. Conduct wildlife conservation education
 | * Concepts and terms in wildlife conservation education
* Importance of wildlife conservation education
* Wildlife conservation education target groups
* Wildlife conservation education materials
* Methods of instruction in wildlife conservation
* Conducting wildlife conservation trainings and assessment
* Report writing
 | * Observation
* Written tests
* Oral questioning
* Interview
* Portfolio
* Third party report
 |
| 1. Create wildlife conservation awareness
 | * Concept and terms in wildlife conservation awareness
* Importance of wildlife conservation awareness
* Conservation awareness resource mobilization
* Methods of community sensitization
* Report writing
 | * Observation
* Written tests
* Oral questioning
* Interview
* Portfolio
* Third party report
 |
| 1. Collect human-wildlife conflict data
 | * Concepts and terms in data collection
* Importance of human-wildlife conflict data
* Methods of human-wildlife conflicts data collection and recording
* Identification of problem animals
* Categories of human-wildlife conflicts
* Assessment of severity of human-wildlife conflicts
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Mitigate human- wildlife conflicts
 | * Concepts of human-wildlife interactions mitigation
* Causes of human-wildlife conflicts
* Forms of human-wildlife conflicts
* Impacts of human-wildlife conflicts
* Importance of mitigating human- wildlife conflicts
* Mitigation and prevention of human-wildlife conflicts
 | * Observation
* Written tests
* Oral questioning
* Interview
* Third party report
 |
| 1. Integrate wildlife management into the community
 | * Concepts and terms in integration of community wildlife management
* Forms of community wildlife management
* Roles of community wildlife management
* Benefits and limitations of community wildlife management
* Community mobilization
* Wildlife based community organization
* Alternative nature-based community income generating projects
 | * Observation
* Written tests
* Oral questioning
* Interview
* Portfolio
* Third party report
 |
| 1. Facilitate compensation
 | * Concept and terms in compensation for damages caused by wildlife
* Types of wildlife damage compensation
* Importance of wildlife damage compensation
* Legal provisions for compensation for damage by wildlife
* Process of wildlife damage compensation
* Processing and documentation of compensation claims
 | * Observation
* Written tests
* Oral questioning
* Interview
* Portfolio
* Third party report
 |

**Suggested Methods of Instructions**

* Interactive lecture
* Questions and answer methods
* Field training
* Direct instruction
* Demonstrations
* Group discussion
* Presentations
* Videos
* Assignments
* Role play
* Case studies

**Recommended Resources**

* Computers
* Stationery
* Charts/posters/Magazines
* Video clips
* LCD projector
* Whiteboards
* Training kits