****

**THE REPUBLIC OF KENYA**

**COMPETENCY BASED CURRICULUM**

**FOR**

**LAYER PRODUCTION OPERATIONS**

**LEVEL 3**



TVET CDACC

P.O. BOX 15745-00100

NAIROBI

First published 2018

©2018, TVET CDACC

All rights reserved. No part of this curriculum may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods without the prior written permission of the TVET CDACC, except in the case of brief quotations embodied in critical reviews and certain other non-commercial uses permitted by copyright law. For permission requests, write to the Council Secretary/CEO, at the address below:

**Council Secretary/CEO**

**TVET Curriculum Development, Assessment and Certification Council**

**P.O. Box 15745–00100**

**Nairobi, Kenya**

**Email: info@tvetcdacc.go.ke**

# FOREWORD

Agriculture plays an important role in Kenya’s economy. This importance is reflected in the positive correlation between growth in the agricultural sector and that of the national economy. Kenya’s economy registered a growth of 3.3% between 2013 and 2014 with agriculture sector being the leading sector contributing 27.3% to the Gross Domestic Product (GDP) in 2014.In this regard, crops, animal production, fishing and aquaculture contributed 19.7%, 4.9% and 0.8% of the GDP respectively totalling 25.4%, while the balance of 1.9% came from forestry and other support activities. Like most countries in Africa, majority (61%) of Kenya’s population rely on agriculture for employment despite the challenges of climate change, soil degradation and increasing population pressure. In order to enhance the productivity of the work force and ensure a productive and innovative agricultural sector, as well as food security, meaningful education and training of all people involved is of utmost importance.

In the past Agricultural Technical and Vocational Education and Training (ATVET) did not always receive adequate attention from policy-makers. The current education system emphasizes on acquiring knowledge rather than skills development. This resulted to most farmers and the stakeholders in agriculture lacking the requisite skills. Current reforms in the education system aim at addressing this challenge by reforming the agriculture training curriculum, its delivery and assessment. These reforms can only be achieved through Competency Based Education and Training (CBET) approach. The reforms demands for a competency based curriculum which is a tool that will aid in the development of skills, knowledge and attitudes of the farmers. Such training will improve crop and animal husbandry skills which will in turn contribute to increased productivity and improvement of agriculture in the country. Ideally, this education and training will not only include farmers, but all professions involved in agriculture.

This curriculum for the poultry subsector presents us with a unique approach to training which will allow the trainees to gain skills required in their occupation/jobs. It will also allow them to train on their areas of interest without necessarily undertaking all the modules in the curriculum; this permits flexibility in training with multiple entries and exits. It is therefore the curriculum that will revolutionalize the Agriculture sector in Kenya.

**Principal Secretary,State Department of Livestock,**

**Ministry of Agriculture, Livestock and Fisheries.**

# PREFACE

Poultry farming has been on the increase in the last ten years due to high population density, diminishing land sizes, and the escalating un-employment levels in formal sector. Poultry farming contributes to the lives of 21 million Kenyans and 6.1% of agricultural GDP. There are approximately 32 million birds in Kenya out of which 76% are free ranging indigenous chicken, 8% are broilers and 14% commercial layers. The indigenous poultry production involves 75% of rural households. As of 2011, it was reported that approximately 71% of eggs and poultry meat in Kenya are derived from indigenous poultry. In 2006, it was reported that commercial poultry production constitutes 23.8% of the total poultry population, with broilers representing 16.2% and layers another 7.8%. Other poultry species such as ducks, guinea fowls, Quails and turkeys comprise about 2.2% of the total poultry population .The industry is therefore supposed to play a strategic role in the ongoing socio economic pillar under the vision 2030.

However the industry has seen slow growth over the past years due to lack of skills and increasing costs of production. This is despite the fact that the sub-sector contributes positively to wealth creation, poverty alleviation, and gender equity especially in the rural areas. The industry contributes to the macro economy by generating incomes for the value chain actors, creation of employment opportunities for rural people and provision of source of protein for poor families and manure for their gardens.

To address the challenge of lack of skilled labour, a Competency Based curriculum development process was initiated. Using the DACUM methodology Job Analysis Chart and Occupation standards were developed in collaboration with the industry players and guided by Curriculum Development Assessment and Certification Council (CDACC). Eleven Jobs/Occupations were identified,

Job Analysis Charts were further analyzed through Task Analysis and the information generated used to develop Occupation Standards. The information generated from the task analysis was also used to develop the Units of competences for each job. The result was to the realization of 11 curricula for the poultry subsector .This was done by experts drawn from Technical training institutions, Universities and industry representatives.

The curricula were presented to the Poultry Sector Skills Advisory Committee (PSSAC) who made recommendations for improvement of the curricula and adopted the curricula for its progression to the next stages of approval by the CDACC. The curricula development process was a rigorous exercise that involved wide consultations with various stakeholders with the aim of enriching it and promoting its acceptance. The end product is a rich and well thought tool that will be used to deliver Competence Based Training and produce competent graduates that can employed, entrepreneurs or self-employed in the poultry industry.

**CHAIRPERSON**

**TVET CDACC.**

# 

# ACKNOWLEDGEMENTS

This Curriculum was developed through the combined efforts of different stakeholders in the poultry subsector namely the state department of livestock, private practitioners and regulators. Institutions in the State Departments of Livestock led the process of this curriculum development and key among them were the Dairy Training Institute (DTI), and, Animal Health and Industry Training Institutes (AHITIs). We wish to acknowledge the invaluable contribution received from the private sector industry players who provided inputs towards the development of occupational standards against which this curriculum was developed.

With the Occupational Standards in hand, the stakeholders provided technical inputs towards the development and completion of this curriculum. They sat through many hours putting together all the knowledge, skills and attitudes that a Poultry industry worker would require in effectively performing his / her duties and tasks as per the Occupational Standards developed.

We are most sincerely thankful to the heads of these institutions who released their staff to join in this important course. Our gratitude goes to the various facilitators that moderated several workshops and ensured that all deliberations and outputs were captured and compiled. These persons did not only demonstrate patience, but also provided leadership by motivating and guiding the groups towards the finalization of this curriculum. We cannot forget to thank the government agencies that regulate the Technical and Vocational Education and Training (TVET) system namely TVET Authority and CDACC through whom guidance and support was provided on this curriculum development.

We are greatly indebted to the Food Security and Drought Resilience Programme (FSDRP) with support of the German Development Cooperation (GIZ), which enabled the implementation of this curriculum development process through the Food Security Project (FSP). In the same breath, we are indebted to the National Coordinator of the GIZ Comprehensive Africa Agricultural Development Programme (CAADP) ATVET project who was instrumental in enabling the smooth and close cooperation between the project and the key government ministries namely Ministry of Agriculture, Livestock, Fisheries and Irrigation (MoALF&I) and Ministry of Education (MoE).

Last but not least, we are grateful to any other person, institution, organization or company who played any role in making this process successful but has not been mentioned. We dearly acknowledge your contribution and support.

**COUNCIL SECRETARY/CEO,**

**TVET CDACC.**

**TABLE OF CONTENTS**

[FOREWORD ii](#_Toc78897691)

[PREFACE iii](#_Toc78897692)

[ACKNOWLEDGEMENTS v](#_Toc78897693)

[ACRONYMS AND ABBREVIATIONS viii](#_Toc78897694)

[KEY TO UNIT CODE x](#_Toc78897695)

[COURSE OVERVIEW xi](#_Toc78897696)

[BASIC UNITS OF LEARNING 14](#_Toc78897697)

[**COMMUNICATION SKILLS** 1](#_Toc78897698)

[**NUMERACY SKILLS** 4](#_Toc78897699)

[**DIGITAL LITERACY** 6](#_Toc78897700)

[**ENTREPRENEURIAL SKILLS** 8](#_Toc78897701)

[**EMPLOYABILITY SKILLS** 11](#_Toc78897702)

[**ENVIRONMENTAL LITERACY** 14](#_Toc78897703)

[**OCCUPATIONAL SAFETY AND HEALTH PRACTICES** 16](#_Toc78897704)

[CORE UNITS OF LEARNING 18](#_Toc78897705)

[POULTRY SRUCTURES CONSTRUCTION 19](#_Toc78897706)

[LAYER CHICK BROODING MANAGEMENT 23](#_Toc78897707)

[POULTRY GROWERS MANAGEMENT 28](#_Toc78897708)

[LAYING POULTRY MANAGEMENT 32](#_Toc78897709)

[POULTRY HEALTH AND WELFAREMANAGEMENT 37](#_Toc78897710)

# ACRONYMS AND ABBREVIATIONS

|  |  |
| --- | --- |
| 2D | 2 Dimensional |
| 3D | 3 Dimensional |
| AHITI | Animal Health and Industry Training Institute |
| ATVET | Agricultural Technical and Vocational Education and Training |
| AU - IBAR | African Union – InterAfrican Bureau for Animal Resources |
| CAADP | Comprehensive Africa Agricultural Development Programme |
| CAD | Computer Assisted Drawing |
| CBET | Competency Based Education and Training |
| CDACC | Curriculum Development Assessment and Certification Council |
| CEO | Chief Executive Officer |
| DACUM | Develop a Curriculum |
| DTI | Dairy Training Institute |
| DVS | Director of Veterinary Services |
| EMCA | Environmental Management and Conservation Act |
| EMS | Environmental Management Systems |
| FSDRP | Food Security and Drought Resilience Programme |
| FSP | Food Security Project |
| GDP | Gross Domestic Product |
| GMP | Good Manufacturing Practices |
| HACCP | Hazard Analysis Critical Control Point |
| ICT | Information Communication Technology |
| IM | Intra Muscular |
| KCSE | Kenya Certificate of Secondary Education |
| KNQA | Kenya National Qualifications Authority |
| KNQF | Kenya National Qualifications Framework |
| KSPCA | Kenya Society for the Care and Protection of Animals |
| LCD | Liquid Crystal Display |
| MAP | Modified Atmosphere Packaging |
| MoALF&I | Ministry of Agriculture, Livestock, Fisheries and Irrigation |
| MoE | Ministry of Education |
| NCA | National Construction Authority |
| NEMA | National Environmental Management Authority |
| NEPAD | New Partnerships for African Development |
| NGO | Non-Governmental Organization |
| NPCA | NEPAD Planning and Coordinating Agency |
| OIE | World Organization for Animal Health |
| OS | Occupational Standard |
| OSH | Occupational Safety and Health |
| PPE | Personal Protective Equipment |
| PSSAC | Poultry Sector Skills Advisory Committee |
| SOP | Standard Operation Procedures |
| TVET | Technical and Vocational Education and Training |
| TVETA | Technical and Vocational Education and Training Authority |

# KEY TO UNIT CODE

**POL /CU/ BR /BC /01/3/ A**

Industry or sector

Occupational Standards

Occupational area

Type of competency

Competency number

Competency level

Version control

### 

# COURSE OVERVIEW

**Description of the course**

This course is designed to equip individuals with competencies for rearing layer chicken. It entails Poultry structures construction, Layer chick brooding management, Poultry growers management, Laying poultry management and Poultry health and welfare management

This course consists of basic and core units of learning as indicated below:

**Basic Units of Learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** | **Duration in Hours** | **Credit factor** |
| POL/CU/LY/BC/01/3/A | Demonstrate communication skills | **15** | **1.5** |
| POL/CU/LY/BC/02/3/A | Demonstrate numeracy skills | **15** | **1.5** |
| POL/CU/LY/BC/03/3/A | Demonstrate digital literacy | **20** | **2** |
| POL/CU/LY/BC/04/3/A | Demonstrate entrepreneurial skills | **40** | **4** |
| POL/CU/LY/BC/05/3/A | Demonstrate employability skills | **20** | **2** |
| POL/CU/LY/BC/06/3/A | Demonstrate environmental literacy | **15** | **1.5** |
| POL/CU/LY/BC/07/3/A | Demonstrate occupational safety and health practices | **15** | **1.5** |
| TOTAL | | **140** | **14** |

**Core Units of Learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** | **Duration in Hours** |  |
| POL/CU/LY/CR/01/3/A | Poultry structures construction | 84 | 8 |
| POL/CU/LY/CR/02/3/A | Layer chick brooding management | 84 | 8 |
| POL/CU/LY/CR/03/3/A | Poultry grower’s management | 36 | 4 |
| POL/CU/LY/CR/04/3/A | Laying poultry management | 72 | 7 |
| POL/CU/LY/CR/05/3/A | Poultry health and welfare management | 84 | 8 |
|  | Industrial attachment | 300 | 30 |
| **Total** | | 660 | 66 |
| **Grand total** | | 800 | 80 |

**Field Attachment**

It is envisaged that the trainee will have undergone a field training and assessment with a recognized layer production farm, a prerequisite for completion of this training course. At least 160 hours (4 weeks) will be spent on a supervised and assessed field attachment.

**Entry Requirements**

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

1. Attained KCPE certificate

**Or**

1. Equivalent qualifications as determined by Kenya National Qualifications Framework (KNQF)

**Trainers Qualification**

A trainer for this course should have a higher qualification than the level of this course

**Assessment**

The course will be assessed at two levels: internally and externally. Internal assessment is continuous and is conducted by the trainer who is monitored by an accredited internal verifier while external assessment is conducted by accredited external assessors appointed by TVET CDACC.

**Certification**

A candidate will be issued with a Record of Achievement on demonstration of competence in a unit of competency. To attain the qualification of layer production operator Level 3, the candidate must demonstrate competence in all the units of competency as given in qualification pack. These certificates will be issued by TVET CDACC in conjunction with training provider.

# BASIC UNITS OF LEARNING

**COMMUNICATION SKILLS**

**UNIT CODE:** POL/CU/LY/BC/01/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Communication Skills

**Duration of Unit:** 15 hours

**Unit Description**

This unit specifies the competencies required to demonstrate communication skills. It involves, obtaining and conveying workplace information, speaking English at a basic operational level, participating in workplace meetings and discussions, and completing relevant work-related documents.

**Summary of Learning Outcomes**

1. Obtain and convey workplace information
2. Speak English at a basic operational level
3. Participate in workplace meetings and discussions
4. Complete relevant work-related documents

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Obtain and convey workplace information | * Communication process * Modes of communication * Medium of communication * Effective communication * Barriers to communication * Flow of communication * Sources of information * Types of questions * Organizational policies * Workplace etiquette * Ethical work practices in handling communication | * Written tests * Oral questioning |
| 1. Speak English at a basic operational level | * English grammar   + Nouns, verbs, adjectives, adverbs, pronouns prepositions * English speaking   + Pronunciation   + Simple conversations * Taking verbal instructions * Reading and writing in English * Forms of expression in English | * Written tests * Oral * Role play |
| 1. Participate in workplace meetings and discussions | * Nature of workplace meetings * Meeting protocols * Workplace interactions | * Oral questioning * Written tests |
| 1. Complete relevant work-related documents | * Types and purposes of workplace documents and forms * Methods used in filling forms and documents * Recording workplace data * Process of distributing workplace forms and documents * Report writing * Types of workplace reports | * Written tests * Oral questioning |

**Suggested Methods of Instruction**

1. Discussion
2. Role play
3. Brainstorming
4. Viewing of related videos
5. Role play

**Recommended Resources**

* Desktop computers/laptops
* Projectors
* Report writing templates
* Pens
* Notebooks

**NUMERACY SKILLS**

**UNIT CODE:** POL/CU/LY/BC/02/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Numeracy Skills

**Duration of Unit:** 15 hours

**Unit Description**

This unit covers the competencies required to identify and undertake simple numerical processes. The person who is competent in this unit shall be able to use / work with whole numbers and money up to one hundred thousand; Locate, compare and use highly familiar measurement; Use highly familiar maps and diagrams; Identify and use some common 2D shapes; and locate specific Information in highly familiar tables, graphs and charts for work.

**Summary of Learning Outcomes**

1. Use whole numbers for work
2. Locate, compare and use highly familiar measurement for work
3. Use highly familiar maps and diagrams for work
4. Identify and use some common 2D shapes for work
5. Locate specific Information in highly familiar tables, graphs and charts for work

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Use whole numbers for work | * Whole numbers * Use of Zeros * Use of halves * Sizes * Grouping of numbers * Addition and subtraction of whole numbers * Numerical information, * Symbols | * Written tests * Assignments * Supervised exercises |
| 1. Locate, compare and use highly familiar measurement for work | * Measurements * Units of measurements and their use * Digital time am and pm * Calendars | * Written tests * Assignments * Supervised exercises |
| 1. Use highly familiar maps and diagrams for work | * + Use of Maps and * Diagrams simple * symbols and pictorial   + Giving simple oral directions to locate objects | * Oral * Assignments * Supervised exercises |
| 1. Identify and use some common 2D shapes for work | * + Two dimensional shapes   + Describe common objects in terms of size and shape   + Compare objects   + Group common objects based on shape, size, color and features | * Written tests * Assignments * Supervised exercises |
| 1. Locate specific Information in highly familiar tables, graphs and charts for work | * + Simple tables   + Features of simple graphs and charts   + Numerical information in tables, graphs & charts | * Oral * Assignments * Supervised exercises |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory.
* Practical demonstration of tasks by trainer
* Role play
* Discussion
* Demonstration by trainees and comments and corrections by trainers

**Recommended Resources**

* Common 2D shapes objects
* Calculator
* Basic measuring instruments
* Mathematical tables

**DIGITAL LITERACY**

**UNIT CODE:** POL/CU/LY/BC/03/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Digital Literacy

**Duration of Unit:** 20 hours

**Unit Description**

This unit covers the competencies required to demonstrate digital literacy in a working environment. It entails identifying computer software and hardware, applying security measures to data, hardware, software, applying computer software in solving tasks and applying internet and email in communication at workplace.

**Summary of Learning Outcomes**

1. Identify computer hardware and software
2. Apply security measures to data, hardware and software
3. Apply computer software in solving tasks
4. Apply internet and email in communication at workplace

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Identify computer hardware and software | * Definition of a computer * Functions of a computer * Components of a computer * Classification of computers * Computer software | * Written tests * Practice assignments |
| 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 | * Written tests * Oral presentation |
| 1. Apply computer software in solving tasks | * Operating systems * Word processing * Spread sheets * Data base | * Oral questioning * Practical |
| 1. Apply internet and email in communication at workplace | * Computer networks * Uses of internet * Electronic mail (e-mail) concept | * Oral questioning * Oral presentation * Written test |

**Suggested Methods of Instruction**

1. Instructor led facilitation of theory
2. Demonstration by trainer
3. Assignments
4. Viewing of related videos
5. Group discussions

**Recommended Resources**

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

**ENTREPRENEURIAL SKILLS**

**UNIT CODE:** POL/CU/LY/BC/04/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Entrepreneurial Skills

**Duration of unit:** 40 hours

**Unit description**

This unit describes the competencies required to demonstrate entrepreneurial competencies. It involves, developing entrepreneurial culture, identifying entrepreneurial opportunities, starting, operating and growing a small business.

**Summary of Learning Outcomes**

1. Develop entrepreneurial culture
2. Identify entrepreneurial opportunities
3. Start a small business
4. Operate a small business
5. Grow a small business

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Develop entrepreneurial culture | * Definition of entrepreneur * Importance of entrepreneurship * Common terminologies in entrepreneurship * Entrepreneurship and employment creation * Formal and informal employment * Habits that promote entrepreneurial development * Cultural factors that inhibit entrepreneurship | * Individual/group assignments * Written tests * Oral |
| 1. Identify entrepreneurial opportunities | * Types, characteristics, qualities & role of entrepreneurs * SWOT analysis * Generating Business ideas * Business opportunities * Evaluation of business opportunities | * Individual/group assignments * Written tests * Oral questioning * Oral presentation |
| 1. Start a small business | * Factors to consider when starting a small business * Legal requirement for starting a small business * Procedure of starting a small business * The dos and don’ts of starting a small business * Challenges faced when starting a small business and mitigating factors * Launch of a small business | * Oral questioning * Individual/group assignments * Written tests |
| 1. Operate a small business | * Organizational structure of a small business * Managing small business finances * Book keeping * Business support services * Marketing for small businesses * Basic IT application in small business | * Individual/group assignments * Written tests |
| 1. Grow a small business | * Methods of growing/expanding a small business * Resources for growing small business * Small business growth plan * ICT and business growth | * Individual/group assignments * Written tests |

**Suggested Methods of Instruction**

1. Instructor led facilitation of theory
2. Demonstration by trainer
3. assignments
4. Role play
5. Case study

**Recommended Resources**

* Case studies for small businesses
* Business plan template
* Laptop/ desktop computer
* Internet
* Telephone
* Writing materials

**EMPLOYABILITY SKILLS**

**UNIT CODE:** POL/CU/LY/BC/05/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Employability Skills

**Duration of Unit:** 20 hours

**Unit Description**

This unit covers competencies required to demonstrate employability skills. It involves conducting self-management, demonstrating critical safe work habits, demonstrating workplace learning and workplace ethics.

**Summary of Learning Outcomes**

1. Conduct self-management
2. Demonstrate critical safe work habits
3. Demonstrate workplace learning
4. Demonstrate workplace ethics

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Conduct self-management | 1. Self-awareness 2. Formulating personal vision, mission and goals 3. Strategies for overcoming life challenges 4. Emotional intelligence 5. Assertiveness 6. Developing and maintaining high self-esteem 7. Developing and maintaining positive self-image 8. Accountability and responsibility 9. Good work habits 10. Self-awareness 11. Financial literacy 12. Healthy lifestyle practices | 1. Written tests 2. Oral questioning 3. Portfolio of evidence 4. Third party report |
| 1. Demonstrate critical safe work habits | 1. Stress and stress management 2. Punctuality and time consciousness 3. Interpersonal communication 4. Sharing information 5. Resources utilization 6. HIV and AIDS 7. Drug and substance abuse 8. Handling emerging issues | 1. Written tests 2. Oral questioning 3. Portfolio of evidence 4. Third party report |
| 1. Demonstrate workplace learning | 1. Personal training needs identification and assessment 2. Cultural aspects of work 3. Application of learning 4. Safe use of technology 5. Identifying opportunities 6. Workplace innovation 7. Handling emerging issues 8. Future trends and concerns in learning | 1. Written tests 2. Oral questioning 3. Portfolio of evidence 4. Third party report |
| 1. Demonstrate workplace ethics | 1. Meaning of ethics 2. Ethical perspectives 3. Values and beliefs 4. Organization code of ethics 5. Common ethical dilemmas 6. Organization culture 7. Corruption, bribery and conflict of interest 8. Privacy and data protection 9. Harassment and mutual respect 10. Financial responsibility/accountability 11. Etiquette 12. Emerging issues in ethics | 1. Written tests 2. Oral questioning 3. Portfolio of evidence 4. Third party report |

**Suggested Methods of Instruction**

* Simulation/Role play
* Group Discussion
* Presentations
* Q&A
* Case studies
* Assignments

**Recommended Resources**

1. Computers
2. Stationery
3. Charts
4. Video clips
5. Audio tapes
6. Radio sets
7. TV sets
8. LCD projectors

**ENVIRONMENTAL LITERACY**

**UNIT CODE**: POL/CU/LY/BC/06/3/A

**Relationship to Occupational Standards**:

This unit addresses the Unit of Competency: Demonstrate Environmental Literacy

**Duration of Unit:** 15 hours

**Unit Description**

This unit specifies the competencies required to demonstrate environmental literacy. It involves controlling environmental hazard ,controlling environmental pollution and demonstrating sustainable resource use.

**Summary of Learning Outcomes**

1. Control environmental hazard
2. Control environmental Pollution
3. Demonstrate sustainable resource use

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Control environmental hazard | * Environmental Management and Coordination Act 1999 * Solid Waste Act * Storage of environmentally hazardous materials * Disposal of hazardous wastes * Types and uses of PPEs in line with environmental regulations * Occupational Safety and Health Act 2007 | * Written tests * Oral questions * Observation of work procedures |
| 1. Control environmental pollution | * Types of pollution * Environmental pollution control and management * Procedures for waste management | * Written tests * Oral questions * Observation of work procedures |
| 1. Demonstrate sustainable use of resource | * Types of resources * Sustainable resource use and management * Principles of 3Rs (Reduce, Reuse, Recycle) | * Written tests * Oral questions * Observation of work procedures |

**Suggested Methods of Instruction**

* Instructor led facilitation theory
* Discussion
* Demonstration by trainer
* Assignments
* Field trip

**Recommended Resources**

1. Standard operating and/or other workplace procedures manuals
2. Specific job procedures manuals
3. Solid Waste Act
4. Environmental Management and Coordination Act 1999
5. Machine/equipment manufacturer’s specifications and instructions
6. Personal Protective Equipment (PPE)

**OCCUPATIONAL SAFETY AND HEALTH PRACTICES**

**UNIT CODE:** POL/CU/LY/BC/07/3/A

**Relationship to Occupational Standards**

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

**Duration of Unit:** 15 hours

**Unit Description**

This unit specifies the competencies required to practice and promote safety and health at work. It entails preparing to practice safety and health at work and complying and promoting compliance of workers to organization’s occupational safety and health instructions and requirements.

**Summary of Learning Outcomes**

1. Prepare to apply workplace safety and health practices
2. Compliance with occupational safety and health Act

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Prepare to apply workplace safety and health practices | * Awareness of legislation that outlines the minimum standards for occupational safety and health requirements/ regulations * Benefits of implementing an occupational safety and health program * Safety requirements/ regulations of own work and of other workers * Workplace standards and procedures for incidents and emergencies * Prevention and Control Measures for accidents, injuries and sickness | * Oral tests * Written questions * Observation of work procedures |
| 2. Compliance with occupational safety and health Act | * Safety instructions and safety signs * Safe handling of tools, equipment and materials * Use of safe guards and safety devices * Reporting of hazards, incidents, injuries and sickness in the workplace | * Written tests * Oral questions * Observation of work procedures |

**Suggested Methods of Instruction**

* Assigments
* Discussion
* Q&A
* Role play
* Viewing of related videos

**Recommended Resources**

* Occupational safety and health standards
* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Client/supplier instructions
* Organizational or external personnel
* Machine/equipment manufacturer’s specifications and instructions
* Quality standards

# CORE UNITS OF LEARNING

## 

# POULTRY SRUCTURES CONSTRUCTION

**UNIT CODE:** POL/CU/LY/CR/01/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Construct Poultry Structures

**Duration of Unit**: 84 hours

**Unit Description**

This unit specifies the competencies required to construct poultry structures. It involves designing of poultry structures, acquiring construction materials, and managing house construction.

**Summary of Learning Outcomes**

1. Prepare to construct poultry structures
2. Construct poultry structures
3. Install poultry house structures
4. Equip poultry house

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment** |
| 1. Prepare and plan to construct poultry structures | * Types of poultry structures   + - Brooder     - Rearing house     - Store * Factors determining type of poultry house   + - Type of birds     - Production system     - Cost * Personal Protection Equipment and Apparel (PPEs) required in poultry house construction | * Written tests * Observation * Oral questions * Third party report |
| 1. Construct poultry structures | * Accessory structures required in a poultry house   + - Perches     - Laying boxes     - Foot bath     - Cages * Various designs of poultry structures. * Occupational safety and health procedures in poultry house construction. * Environmental protection measures observed during poultry house construction. * NEMA certification * Construction materials   + - Types     - Quality     - Storage | * Written tests * Observation * Oral questions * Third party report |
| 2. Construct and install poultry house structures | * Poultry house layout   + - Area measurement     - Pegging * Poultry house foundation   + - Excavation     - Mixing ratios of mortar     - Stone laying * Construction of poultry house parts * Floor * Wall * Roof * Construction of Security and Biosecurity measures   + - Predators barriers     - vehicle and human traffic controls * Construction of accessory structures   + - Perches     - Laying boxes     - Foot bath * Site clearing   + - Importance     - Debris disposal * Work inspection * -critical house requirements | * Written tests * Observation * Oral questions * Third party report * Project and report writing |
| 1. Equip poultry house | * Equipment and materia**l** necessary in a poultry house   + Types and use   + Specifications and quantity * Factors considered in installation of equipment and materials in poultry house   + Time   + pattern   + Safety precautions   + Number of birds * Testing-running of the equipment   + Heat source   + Waterers   + Feeders   + Ventilation   + Lighting | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of instructions**

* Demonstration
* Practice by the trainee
* Field trips
* Discussions
* Direct instruction
* Case studies
* Simulation
* Audio-visual aids
* Modelling

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| Functional poultry farm with the following: | | |
| * Poultry house * Equipments   - Brooder  - Brooder thermometer  - Hygrometer  - Waterers  - Feeders  - Complete Battery cage system  - Bedding materials  - Buckets  - Grit / shell container  - Sand bath | * Brooder * Store * Aceesory structures * Saw * Stones * Sand * Cement * Ballast * Timber * Slashers * Crowbar | * Hammer * Nails * String * Wooden pegs * Tape measures * Barbed/chain link * Hoe * Shovels * Wheel burrow |

# LAYER CHICK BROODING MANAGEMENT

**UNIT CODE:** POL/CU/LY/CR/02/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage layer chick brooding

**Duration of Unit:** 84 hours

**Unit Description**

This unit specifies the competencies required to brood chicks. It involves preparing chick brooder, feeding brooding chicks, managing brooder house micro climate, maintaining brooder hygiene, performing chick vaccination, controlling poultry vermin, controlling poultry predators and monitoring chick performance.

**Summary of Learning Outcomes**

1. Prepare chick brooder
2. Feed brooding chicks
3. Manage brooder house micro climate
4. Maintain brooder hygiene
5. Perform chick vaccination
6. Control poultry vermin
7. Control poultry predators
8. Monitor chick performance

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment** |
| 1. Prepare chick brooder | * Suitable brooder construction materials * Brooder assembly guidelines. * Cleaning and disinfection of brooder * Types of bedding materials * Suitable bedding materials * Sterilization of bedding materials * Cleaning and sterilization of brooder equipment. * Installation of brooder equipment * Types of brooder equipment * Standard operation of the equipment * Time schedule for placement of various equipment * Test-running the equipment | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 2. Feed brooding chicks | * Feeding requirements of chicks * Amount * Feeding schedule * ad libitum feeding * light schedule * Water requirements of chicks * quality * quantity | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 3 Manage brooder house micro climate | * Methods of assessing micro-climatic variations in brooder house * Use of tools and equipment * Animal behaviour * Human senses * Non-conventional aids * Corrective measures for micro-climate variations * Temperature * Humidity * Ventilation * Lighting. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 4. Maintain brooder hygiene | * Biosafety practices required in brooding * Assessment of Bio-safety conformity   + Staff Monitoring   + Structures and facilities | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 5. Perform chick vaccination | * Chick vaccination schedule * Handling and storage of vaccines * Equipment and tools required for vaccination. * Vaccination procedures. * Pre- vaccination preparation * Actual vaccination * Chick vaccination records | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 6. Control poultry vermin | * Identification of vermin * Lice * Mites * Fleas * Vermin control measures * Chemical * Structural related * -Cultural practices | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 7. Control poultry predators | * Types of predators * Man * Cats * Dogs * Mongoose * Hawks * Rats * Predator control measures for brooder house * Chemical * Mechanical * Biological * - Structural –related controls | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 8. Monitor chick performance | * Growth and development pattern in chicks * Feathering * Weight gain * Chick behaviour * Feeding behaviour * Activity * Methods of assessing growth performance of chicks * Weighing * Physical appearance * Performance assessment equipment and tools. * Poultry vices * -Types * Control measure * Culling of chicks * culling criteria. * Stages of culling | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of instructions**

* Project
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction
* Case study
* Audio –visual aids

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| Functional Brooder house with the following: | | |
| * Day old chicks * Heat source * Chick feeders * Chick drinkers * Light source | * Brooder guard * Curtains * Brooder thermometer * Hygrometer * Beddings | * Weighing scale * Chick feeds * Water * Vaccines * Vaccination equipment |

# POULTRY GROWERS MANAGEMENT

**UNIT CODE:** POL/CU/LY/CR/03/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage Poultry Growers

**Duration of Unit:** 36 hours

**Unit Description**

This unit specifies the competencies required to manage poultry growers. it involves sanitization of growers house, managing growers house litter, transferring poultry to growers’ house, feeding growing poultry, vaccinating growing poultry, monitoring growing poultry, managing biosafety measures and managing poultry house micro climate.

**Summary of Learning Outcomes**

1. Sanitize growers house
2. Manage growers house litter
3. Transfer poultry to growers’ house
4. Feed growing poultry
5. Vaccinate growing poultry
6. Monitor growing poultry
7. Manage biosafety measures
8. Manage poultry house micro climate

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment** |
| 1. Sanitize growers house | * Litter removal and disposal * House cleaning * Tools required in cleaning * Cleaning procedure * House disinfection * Tools required in disinfection * Disinfection procedure | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Manage growers house litter | * Suitable litter materials * Wet litter * Causes of wet litter * Corrective measures for wet litter * Dusty litter * Corrective measures for dusty litter * General litter maintenance practices * Adequate ventilation * Turning * litter addition | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Transfer poultry to growers’ house | * Transferring the growers * Method and equipment used in the transfer of growers * Handling precautions * Culling of growers | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Feed growing poultry | * Feed requirements of growers * Amount * Feeding schedule * Water requirements of growers * quality * quantity | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Vaccinate growing poultry | * Grower vaccination schedule * Equipment and tools required for vaccination. * Vaccination procedures * Pre- vaccination preparation * Actual vaccination * Grower vaccination records | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. 6 Monitor growing poultry | * Grower behaviour * Feeding behaviour * Activity * Vices * Grower vices   + -Types     - Control measures * Methods of assessing growth performance of chicks * Weighing   + - Physical appearance | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage biosafety measures | * Biosafety structures/ facilities in grower house * Biosafety practices required in grower house | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage poultry house micro climate | * Methods of assessing micro-climatic variations in grower house * Use of tools and equipment * Human senses * Non-conventional aids * Corrective measures for micro-climate variations * Temperature * Humidity * Ventilation * Lighting. * Lighting regime for growers | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of instruction**

* Project
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction
* Case study
* Audio –visual aids

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| Functional poultry unit with the following: | | |
| * Shovel * Broom * Wheel burrow * Sanitizing agents * Brush * Detergents * Knapsack sprayer * Litter * Rake * Hammer | * Timber * Nails * Saw * Catching hook * Weighing scale * Jerry can * Crates * Feeders * Drinkers * Grit container | * Grit * Water * Feed * Vaccine * Multivitamins * Syringe * Needles * Cool box * Freezer * Disinfectant |

# LAYING POULTRY MANAGEMENT

**UNIT CODE:** POL/CU/LY/CR/04/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage laying poultry

**Duration of Unit:** 72 hours

**Unit Description**

This unit specifies the competencies required to manage laying poultry. It involves feeding laying birds, cleaning, feeding and watering equipment, maintaining suitable litter condition, managing poultry house micro climate, vaccinating laying poultry, monitoring poultry performance, handling poultry eggs and maintaining poultry records.

**Summary of Learning Outcomes**

1. Feeding laying birds
2. Cleaning feeding and watering equipment
3. Maintaining suitable litter condition
4. Managing poultry house micro climate
5. Vaccinating laying poultry
6. Monitoring poultry performance
7. Handling poultry eggs
8. Maintain poultry records

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods Assessment** |
| 1. Feeding laying birds | * Feed requirements of layers * Amount * Feeding schedule * Feeding with green feedstuffs * Grit * Water requirements of layers * quality * quantity * Feeders and waterers * Number and pattern of installation * Improvised feeders and waterers | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Cleaning of feeding and watering equipment | * Cleaning procedures for feeders and waterers * Sanitising procedures for feeders and waterers. | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Maintaining suitable litter condition | * Wet litter   + Causes of wet litter   + Corrective measures for wet litter * Dusty litter   + Corrective measures for dusty litter * General litter maintenance practices   + Adequate ventilation   + Turning   + litter addition | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Managing poultry house micro climate | * Methods of assessing micro-climatic variations in layer house * Use of tools and equipment * Human senses * Non-conventional aids * Corrective measures for micro-climate variations * Temperature * Humidity * Ventilation * Lighting. * Lighting regime for layers | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Vaccinating laying poultry | * Layer vaccination schedule * Equipment and tools required for vaccination. * Vaccination procedures * Pre- vaccination preparation * Actual vaccination * layer vaccination records | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Monitoring poultry performance | * Growth and development pattern in layers * Feathering * Combs and wattles * Physical behaviour * Layer behaviour * Feeding behaviour * Activity * Vices * Layer vices * Types * Control measures * Culling of non-layers * criteria/ indicators used in culling * Broodiness in layers * Control for broodiness * Moulting * Force moulting | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Handling poultry eggs | * Recommendations regarding egg collection * Intervals * Equipment * precautions * Sorting and grading of eggs * Equipment * Labelling * Cleaning of eggs * cleaning material * cleaning methods and precautions * Packaging of eggs * Packaging material * Packaging precautions. * Branding of Poultry * Methods of labellin * branding equipment | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Maintain poultry records | * Types of poultry records * Storage of poultry records | * Written tests * Observation * Oral questions * Third party report * Interviewing |

**Suggested Methods of instructions**

* Project
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction
* Case study
* Audio –visual aids
* Direct instruction

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| Functional poultry unit with the following: | | |
| * Shovel * Broom * Wheel burrow * Sanitizing agents * Brush * Detergents * Knapsack sprayer * Litter * Rake * Hammer * Timber * Nails * Computer * Printer | * Saw * Catching hook * Weighing scale * Jerry can * Crates * Feeders * Drinkers * Grit container * Grit * Water * Feed * Vaccine * Stationery | * Multivitamins * Syringe * Needles * Cool box * Freezer * Disinfectant * Candles * Torch * Egg crates * Egg trays * Cloth * Labels * Branding machine |

# 

# POULTRY HEALTH AND WELFAREMANAGEMENT

**UNIT CODE:** POL/CU/LY/CR/05/3/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Manage Poultry Health

**Duration of Unit:** 84 hours

**Unit Description**

This unit specifies the competencies required to manage poultry health. It involves farm biosecurity, parasite control, vaccination, control of diseases and vices

**Summary of Learning Outcomes**

* 1. Manage poultry biosecurity
  2. Manage poultry vaccination
  3. Control poultry parasites
  4. Manage poultry diseases and vices

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of Assessment** |
| 1. Manage poultry biosecurity | * + Biosecurity measures in a poultry farm   + Occupational safety and health procedures in poultry farm   + Poultry waste management   + Litter (droppings, feathers, spilt feed, dead birds)   + Other wastes (plastics, glass, paper, metals and fluids) | * Written tests * Observation * Oral questions * Third party report * Interviewing * Case study reports |
| 1. Manage poultry vaccination | * Vaccination schedule * Vaccine handling * Vaccination sites and routes * Poultry handling * Animal welfare | * Observation * Written tests * Oral questions * Interviewing * Third party report |
| 1. Control poultry parasites, pests and predators | * External and internal poultry parasites * Types * Internal * External(mites, soft ticks, fleas) * Prevention and control measures * Poultry pests and predators * Types * Control measures | * Observation * Written tests * Oral questions * Interviewing * Third party report |
| 1. Manage poultry diseases and vices | * General signs of ill health in poultry * General disease prevention and control measures * Poultry vices * Types of vices * Prevention and control measures | * Observation * Written tests * Oral questions * Interviewing * Third party report |

**Suggested Methods of instructions**

* Project
* Demonstration by trainer
* Practice by the trainee
* Field trips
* Discussions
* Direct instruction
* Electronic audio-visual presentations
* Simulations

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| Functional poultry farm with the following: | | |
| * Stationery (pen and sketching books) * Poultry shackles * Scapels * Cleaning materials and equipment * Disinfectants * Sanitizers * Disposal pits * Weighing scales * Debeaking machine * Wing stab needles * Strategic poultry drugs – preventative and emergency | * Automatic vaccination syringes * Syringes and needles * Vaccines * Poultry dewormers * Coccicidals * Poultry acaricides * Poultry dusts * Footbaths * Spayers * Waste management equipment and material * Litter rakes * Litter bins * Rodenticides * Rodent control traps | * Flock health records * Water * PPEs * Standard work place procedures * Animal diseases act Cap 365, legal notice 47 of 1985 * NEMA regulations and audits * Livestock Production Manual |