****

**REPUBLIC OF KENYA**

**COMPETENCY BASED CURRICULUM**

**FOR**

**PIG PRODUCTION**

**LEVEL 4**



TVET CDACC

P.O. BOX 15745-00100

NAIROBI

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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 to 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 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 Agriculture Sector’s growth and development.

**PRINCIPAL SECRETARY, VOCATIONAL AND TECHNICAL TRAINING**

**MINISTRY OF EDUCATION**

# 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 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 Agriculture Sector Skills Advisory Committee (SSAC) and Ministry of livestock have developed this curriculum.

This curriculum has been developed following the CBET framework policy; the CBETA standards and guidelines provided by the TVET Authority and the Kenya National Qualification Framework designed by the Kenya National Qualification Authority.

This curriculum is designed and organized with an outline of learning outcomes; suggested delivery methods, 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, Agriculture SSAC, expert workers and all those who participated in the development of this curriculum.

**CHAIRPERSON,**

**TVET CDACC**

# 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 organizations.

I recognize with appreciation the role of the Agriculture 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 Pig 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 Pig Sector acquire competencies that will enable them to perform their work more efficiently.

**COUNCIL SECRETARY/CEO**

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ACRONYMS AND ABBREVIATIONS

CDACC Curriculum Development Assessment and Certification Council

CU Curriculum

BC Basic Competency

CC Core Competency

CO Common Units

KCSE Kenya Certificate of Secondary Education

KNQA Kenya National Qualifications Authority

OSHA Occupation Safety and Health Act

PPE Personal Protective Equipment

SSAC Sector Skills Advisory Committee

TVET Technical and Vocational Education and Training

# KEY TO UNIT CODE

**AGR / CU/PIG/ BC/CO/ CC /01/ 4/A**

Industry or sector

Curriculum

Occupational area

Type of competency

Type of competency

Type of competency

Competency number

Competence level

# COURSE OVERVIEW

The Pig production level Four (4) qualification consists of competencies that a person must achieve to construct a pig unit, produce pig stock, produce pig feeds, produce pig products and by-products and market pig and pig products within the institution’s/organizations acceptable standard operating procedures (SOPs).

**Units of Learning**

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

**Basic Units of Learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit o Title** | **Duration in Hours** | **Credit factor** |
| AGR/CU/PP/BC/01/4/A | Communication skills | 20 | 2 |
| AGR/CU/PP/BC/02/4/A | Numeracy skills | 25 | 2.5 |
| AGR/CU/PP/BC/03/4/A | Digital literacy | 35 | 3.5 |
| AGR/CU/PP/BC/04/4/A | Entrepreneurial skills | 60 | 6 |
| AGR/CU/PP/BC/05/4/A | Employability skills | 30 | 3 |
| AGR/CU/PP/BC/06/4/A | Environmental literacy | 20 | 2 |
| AGR/CU/PP/BC/07/4/A | Occupational safety and health practices | 20 | 2 |
| **Total** |  | **210** | **21** |

**Core units of learning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** | **Duration in Hours** | **Credit factor** |
| AGR/CU/PP/CR/01/4/A | Pig Unit construction | 70 | 7 |
| AGR/CU/PP/CR/02/4/A | Pig stock production | 120 | 12 |
| AGR/CU/PP/CR/03/4/A | Pig feeds production | 120 | 12 |
| AGR/CU/PP/CR/04/4/A | Production of pig products and by-products | 100 | 10 |
| AGR/CU/PP/CR/05/4/A | Pigs and pig products marketing | 80 | 8 |
| AGR/CU/PP/CR/08/4/A | Industrial attachment | 300 | 30 |
| **Total** |  | **790** | **79** |
| **Grand Total** |  | **1000** | **100** |

The total duration of the course is 1000 hours.

**Entry Requirements**

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

1. Pig production certificate Level 3

**Or**

1. Kenya Certificate of Secondary Education (KCSE) E

**Or**

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

**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 the responsibility of TVET CDACC.

**Certification**

A candidate will be issued with a Certificate of Competency for each Unit of Competency. To attain the qualification National certificate Level 4 Pig production, 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:** AGR/CU/PP/BC/01/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Communication Skills

**Duration of Unit:** 20 Hours

**Unit Description**

This unit covers the competencies required demonstrate communication skills. It involves obtaining and conveying workplace information, completing relevant work-related documents, communicating information about workplace processes, leading workplace discussion and communicating workplace issues.

**Summary of Learning Outcomes**

1. Obtain and convey workplace information
2. Complete relevant work-related documents
3. Communicate information about workplace processes
4. Lead workplace discussions
5. Identify and communicate issues arising in the workplace

**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 | * Interview * Third party reports |
| 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 | * Interview * Third party reports |
| 1. Communicate information about workplace processes | * 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 | * Interview * Portfolio |
| 1. Lead workplace discussion | * Methods of discussion e.g.   + Coordination meetings   + Toolbox discussion   + Peer-to-peer discussion * Solicitation of response | * Interview * Third party reports |
| 1. Identify and communicate issues arising in the workplace | * Identification of problems and issues * Organizing information on problems and issues * Relating problems and issues * Communication barriers affecting workplace discussions | * Interview * Portfolio |

**Suggested Methods of Instruction**

* Direct instruction
* Demonstration
* Practice assignment
* Discussion
* Role play
* Brainstorming

**Recommended Resources**

* Desktop computers/laptops
* Internet connection
* Projectors
* Telephone
* Report writing templates

**NUMERACY SKILLS**

**UNIT CODE:** AGR/CU/PP/BC/02/4/A

**Relationship to Occupational Standards:**

This unit addresses the Unit of Competency: Demonstrate Numeracy Skills

**Duration of Unit:** 25hours

**Unit Description**

This unit covers the competencies required to demonstrate numeracy skills. It involves identifying and using whole numbers and simple fractions, decimals and percentages for work, identifying, measuring and estimating familiar quantities for work, reading and using familiar maps, plans and diagrams for work, identifying and describing common 2D and some 3D shapes for work, constructing simple tables and graphs for work using familiar data and identifying and interpreting information in familiar tables, graphs and charts for work.

**Summary of Learning Outcomes**

1. Identify and use whole numbers and simple fractions, decimals and percentages for work
2. Identify, measure and estimate familiar quantities for work
3. Read and use familiar maps, plans and diagrams for work
4. Identify and describe common 2D and some 3D shapes for work
5. Construct simple tables and graphs for work using familiar data
6. Identify and interpret information in familiar tables, graphs and charts for work

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Identify and use whole numbers and simple fractions, decimals and percentages for work | * Whole numbers * Simple fractions * Decimals * Percentages * Sizes * Problem solving methods * Calculations using the 4 operations * Recording and communicating numerical information | * Written * Practice assignments |
| 2. Identify, measure and estimate familiar quantities for work | * Measurement information * Units of measurement * Estimate familiar and simple amounts * Selection of appropriate measuring equipment * Calculate using familiar units of measurement * Check measurements and results against estimates * Using informal and some formal mathematical and general language * Record or report results | * Written * Practice assignments |
| 3. Read and use familiar maps, plans and diagrams for work | * Maps, plans and diagrams * Locate items and places in familiar maps, plans and diagrams * Recognize common symbols and keys in familiar maps, plans and diagrams * Direction and location of objects, or route or places * Use of informal and some formal oral mathematical language and symbols | * Practical test * Written |
| 4. Identify and describe common 2D and some 3D shapes for work | * Common 2D shapes and 3D shapes * Classification of common 2D shapes and designs * Description of Use informal and some formal language to describe common two-dimensional shapes and some common three-dimensional shapes * Construction of common 2D shapes * Match common 3D shapes to their 2D sketches or nets | * Written * Practical test |
| 5. Construct simple tables and graphs for work using familiar data | * Types of graphs * Determination of data to be collected * Selection of data collection method * Collection of data * Determination of variables from the data collected * Order and collate data * Construct a table and enter data * Construct a graph using data from table * Check results * Report or discuss graph information related to work using informal and some formal mathematical and general language | * Written * Practical test |
| 6. Identify and interpret information in familiar tables, graphs and charts for work | * Tables construction and labeling * i.e. title, headings, rows and columns * Interpreting information and data in simple tables * Relaying information of relevant workplace tasks on/in a table * Identify familiar graphs and charts in familiar texts and contexts * Locate title, labels, axes, scale and key from familiar graphs and charts * Identify and interpret information and data in familiar graphs and charts * Relate information to relevant workplace tasks | * Written * Practical test |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory
* Practical demonstration of tasks by trainer
* Practice by trainees/ role play
* Discussion
* Observations and comments and corrections by trainers

**Recommended Resources**

1. Computers
2. Stationery
3. Charts
4. Video clips
5. Audio tapes
6. LCD projectors

* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Projectors
* Writing boards
* Mathematical tables

**DIGITAL LITERACY**

**UNIT CODE:** AGR/CU/PP/BC/03/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Digital Literacy

**Duration of Unit:** 35 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 task sand applying internet and email in communication at workplace.

**Summary of Learning Outcomes**

1. Identify computer software and hardware
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 | * Meaning of a computer * Functions of a computer * Components of a computer * Classification of computers | * Written tests * Oral * 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 | * Written tests * Oral presentation * Observation * Projects |
| 1. Apply computer software in solving tasks | * Operating system * Word processing * Spread sheets * Data base | * Oral questioning * Observation * Project |
| 1. Apply internet and email in communication at workplace | * Computer networks * Uses of internet * Electronic mail (e-mail) concept | * Oral questioning * Observation * Oral presentation * Written report |

**Suggested Methods of Instruction**

1. Instructor led facilitation of theory
2. Demonstration by trainer
3. Practical assignment
4. Viewing of related videos
5. Project
6. Group discussions

**Recommended Resources**

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

**ENTREPRENEURIAL SKILLS**

**UNIT CODE:** AGR/CU/PP/BC/04/4/A

**Relationship to occupational standards**

This unit addresses the Unit of Competency: Demonstrate Entrepreneurial Skills

**Duration of unit:** 60 hours

**Unit description**

This unit covers the competencies required for creating and maintaining small scale business, establishing small business customer base, managing and growing a micro/small-scale business.

**Summary of Learning Outcomes**

1. Create and maintain small scale business
2. Establish small scale business customer base
3. Manage small scale business
4. Grow/expand small scale business

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Create and maintain small scale business | * Starting a small business * Legal regulatory requirements in starting a small business * SWOT/ PESTEL analysis * Conducting market/industry survey * Generation and evaluation of business ideas * Matching competencies with business opportunities * Forms of business ownership * Location of a small business * Legal and regulatory requirement * Resources required to start a small business * Common terminologies in entrepreneurship * Entrepreneurship in national development * Self-employment * Formal and informal employment * Entrepreneurial culture * Myths associated with entrepreneurship * Types, characteristics, qualities & role of entrepreneurs * History, development and importance of entrepreneurship * Theories of entrepreneurship * Quality assurance for small businesses * Policies and procedures on occupational safety and health and environmental concerns | * Individual/group assignments * projects * Written * Oral |
| 1. Establish small scale business customer base | * Good staff/workers and customer relations * Marketing strategy * Identifying and maintain new customers and markets * Product/ service promotions * Products / services diversification * SWOT / PESTEL analysis * Conducting a business survey * Generating Business ideas * Business opportunities | * Individual/group assignments * projects * Written * Oral |
| 1. Manage small scale business | * Organization of a small business * Small business’ business plan * Marketing for small businesses * Managing finances for small business * Production/ operation process for goods/services * Small business records management * Book keeping and auditing for small businesses * Business support services * Small business resources mobilization and utilization * Basic business social responsibility * Management of small business * Word processing concepts in small business management * Computer application software * Monitoring and controlling business operations | * Oral * Individual/group assignments * projects * Written |
| 1. Grow/expand small scale business | * Methods of growing small business * Resources for growing small business * Small business growth plan * Computer software in business development * ICT and business growth | * Individual/group assignments * projects * Written |

**Suggested Methods of Instruction**

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

**Recommended Resources**

* Case studies for small businesses
* Business plan templates
* Lap top/ desk top computer
* Internet
* Telephone
* Writing materials

**EMPLOYABILITY SKILLS**

**UNIT CODE:** AGR/CU/PP/BC/05/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Employability Skills

**Duration of Unit:** 30 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. Expressing personal thoughts, feelings and beliefs 7. Developing and maintaining high self-esteem 8. Developing and maintaining positive self-image 9. Articulating ideas and aspirations 10. Accountability and responsibility 11. Good work habits 12. Self-awareness 13. Self-development 14. Financial literacy 15. 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. Leisure 6. Integratingpersonal objectives into organizational objectives 7. Resources utilization 8. Setting work priorities 9. HIV and AIDS 10. Drug and substance abuse 11. 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. Managing own learning 3. Contributing to the learning community at the workplace 4. Cultural aspects of work 5. Variety of learning context 6. Application of learning 7. Safe use of technology 8. Identifying opportunities 9. Workplace innovation 10. Performance improvement 11. Handling emerging issues 12. 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. Principles of ethics 4. Values and beliefs 5. Ethical standards 6. Organization code of ethics 7. Common ethical dilemmas 8. Organization culture 9. Corruption, bribery and conflict of interest 10. Privacy and data protection 11. Diversity, harassment and mutual respect 12. Financial responsibility/accountability 13. Etiquette 14. Personal and professional integrity 15. Commitment to jurisdictional laws 16. Emerging issues in ethics | 1. Written tests 2. Oral questioning 3. Portfolio of evidence 4. Third party report |

**Suggested Methods of Instruction**

1. Simulation/Role play
2. Group Discussion
3. Presentations
4. Q&A
5. Case studies
6. 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:** AGR/CU/PP/BC/06/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Environmental Literacy

**Duration of Unit:** 20hours

**Unit Description**

This unit specifies the competencies required to demonstrate environmental literacy. It involves controlling environmental hazard, controlling environmental pollution, demonstrating sustainable resource use and evaluating current practices in relation to resource usage.

**Summary of Learning Outcomes**

1. Control environmental hazard
2. Control environmental pollution
3. Demonstrate sustainable use of resources
4. Evaluate current practices in relation to resource usage

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 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 tests * Oral questions * Observation of work procedures |
| 1. Control environmental Pollution | * 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 tests * 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 tests * Oral questions * Observation of work procedures |
| 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 tests * Oral questions * Observation of work procedures |
| 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 tests * Oral questions * Observation of work procedures |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory
* Practical demonstration of tasks by trainer
* Practice by trainees/ role play
* Discussion
* Observations and comments and corrections by trainers

**Recommended Resources**

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

* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Machine/equipment manufacturer’s specifications and instructions
* Personal Protective Equipment (PPE)

**OCCUPATIONAL SAFETY AND HEALTH PRACTICES**

**UNIT CODE:** AGR/CU/PP/BC/07/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Demonstrate Occupational Safety and Health Practices

**Duration of Unit:** 20 hours

**Unit Description**

This unit specifies the competencies required to practice safety and health and comply with OSH requirements relevant to work. It involves adhering to workplace procedures for hazards and risk prevention and participating in arrangements for workplace safety and health maintenance.

**Summary of Learning Outcomes**

1. Adhere to workplace procedures for hazards and risk prevention
2. Participate in arrangements for workplace safety and health maintenance

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment**  **Methods** |
| 1. Adhere to workplace procedures for hazards and risk prevention | * Arrangement of work area and items in accordance with Company housekeeping procedures * Adherence to work standards and procedures * Application of preventive and control measures, including use of safety gears/PPE * Study and apply standards and procedures for incidents and emergencies. | * Oral questions * Written tests * Portfolio of evidence * Third party report |
| 1. Participate in arrangements for workplace safety and health maintenance | * Participating in orientations on OSH requirements/regulations of tasks * Providing feedback on health, safety, and security concerns to appropriate personnel as required in a sufficiently detailed manner * Practice workplace procedures for reporting hazards, incidents, injuries and sickness * OSH requirements/ regulations and workplace safety and hazard control procedures are reviewed, and compliance reported to appropriate personnel * Identification of needed OSH-related trainings are proposed to appropriate personnel | * Oral questions * Written tests * Portfolio of evidence * Third party report |

**Suggested Methods of Instruction**

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

**Recommended Resources**

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

* 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 bootsn
* 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

# 

# CORE UNITS OF LEARNING

**PIG UNIT CONSTRUCTION**

**UNIT CODE:** AGR/CU/PP/CR/01/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: construct pig unit

**Duration of Unit: 70 hours**

**Unit Description**

This unit covers the competencies required to oversee the construction of a pig unit. It involves determining pig unit construction site, planning for pig unit construction resources, overseeing pig unit construction activities and maintenance activities.

**Summary of Learning Outcomes**

1. Determine pig unit construction site
2. Plan resources for pig unit construction
3. Oversee pig unit construction activities
4. Oversee pig unit repair and maintenance activities

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

| **Learning Outcome** | **Content** | **Methods of Assessment** |
| --- | --- | --- |
| 1. Determine pig unit construction site | * + Meaning of pig unit, Pig Unit   + Site selection of a pig unit   + Factors to consider when selecting a pig unit design   + Types of pig unit design   + Innovations in pig unit construction | * Written test * Observation * Third party report * Oral questioning * Interviews |
| 1. Plan resources for pig unit construction | * + Meaning procurement   + Types of resources required for pig unit construction   + Procurement procedures for pig unit construction services.   + Regulations on pig unit construction | * + Written test   + Observation   + Third party report   + Oral questioning   + Interviews |
| 1. Oversee pig unit construction activities | * Monitoring and evaluation of pig unit construction project * Documentation of pig unit construction activities | * Written test * Observation * Third party report * Oral questioning * Interviews |
| 1. Oversee pig unit repair and maintenance activities | * Characteristics of functional components of a pig unit * Floor * Drainage * Lighting and heating systems * Roofing * Walls * Feed and water facilities * Pig unit maintenance requirements and resources * Pig unit repair and maintenance regulations * Procurement procedure for pig unit repair and maintenance services * Documenting repair and maintenance activities | * Written test * Observation * Third party report * Oral questioning * Interviews |

**Suggested Methods of instructions**

* Projects
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction
* Field Visit
* Videos

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| Functional pig farm with the following: | | |
| * Tractors * Trailer * Slashers * Crowbar * Hammer * Nails * Assorted Building materials and equipment * Video projector | * Saw * Metal bars Poles * Stones * Sand * Cement * Ballast * Wall charts Computer and software (AICAD) | * Tape measures * Barbed/chain link * Land Live fence planting materials * Hoe * Technical drawing sets * PPEs |

# PIG STOCK PRODUCTION

**UNIT CODE:** AGR/CU/PP/CR/01/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: produce pig stock

**Duration of Unit: 120 hours**

**Unit Description**

This unit covers the competencies required to produce pig stock. It involves implementing a pig breeding programme, carrying out routine pig stock management practices as well as herd health management and bio-security practices.

**Summary of Learning Outcomes**

1. Implement pig breeding programme
2. Carry out routine pig stock management practices
3. Carry out health management and bio-security practices

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

| **Learning Outcome** | **Content** | **Methods of Assessment** |
| --- | --- | --- |
| 1. Implement pig breeding programme | * + Meaning of terms: breeds breeding, genes, selection, litter, chromosomes, trait, heritability and swine/pig/hog, cross breeding   + Identification of breeds.   + Production systems   + Traits of economic importance   + Tools of economic importance   + Breeding objectives:   selection of boar, gilt, sow   * + Breeding methods   + Sexual ratio   + Pig behaviour and vices | * Written test * Observation * Third party report * Oral questioning * Interviews |
| 1. Carry out routine pig stock management practices | * Meaning of terms: Generic, non-generic piglets, weaners, boar, gilt, rant, sow, rigs, porkers, baconers, farrowing, parity, barrow, in-pig, pig cycle, hereditary abnormalities * Generic pig stock management practices * Non-generic pig stock management practices * Animal welfare * Pig routine management practices records and record keeping * Pig production cycle * Management of different classes of pigs | * + Written test   + Observation   + Third party report   + Oral questioning   + Interviews |
| 1. Carry out health management and bio-security practices | * Meaning of terms; health, biosafety, disease, farrowing, vaccination, mortality, morbidity, quarantine, notifiable diseases * Importance of bio-security and health management * Types of diseases and parasites * Poisons and poisonous substances * Signs of healthy pig * Signs and symptoms of ill-health in pig * Pig stock health management practices * Pig farm bio-security practices * Pig herd health management records | * Written test * Observation * Third party report * Oral questioning * Interviews |

**Suggested Methods of instructions**

* Projects
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction
* Course practicals
* Industrial attachment
* Outreach programme
* Field visit

**Recommended Resources**

* Pig unit
* Weighing equipment
* Tooth clippers
* Restrainers
* Surgical blades
* Disinfectant
* Sprayers
* Health kit
* Protective clothing
* Cleaning equipment; brooms, wheelbarrow, buckets
* Identification equipment
* Heating equipment/system
* Pregnancy detector
* Grooming equipment
* Water and waterers
* Fostering kit
* Detergent
* Chains to prevent cannibalism
* Feed processing machines
* Feeds and feeders
* Records and record keeping
* Stationeries

# PIG FEEDS PRODUCTION

**UNIT CODE:** AGR/CU/PP/CR/01/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: produce pig feeds

**Duration of Unit:**  120 hours

**Unit Description**

This unit covers the competencies required to produce pig feeds. It involves identifying and sourcing pig feed raw materials, identifying, selecting and applying pig feed production formulae and compounding and storing pig feed rations. It also entails marketing and selling pig feeds.

This standard applies in the pig production industry.

**Summary of Learning Outcomes**

1. Identify and source pig feed raw materials
2. Identify and apply pig feed production formula
3. Compound feed ration
4. Market and sell pig feeds

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

| **Learning Outcome** | **Content** | **Methods of Assessment** |
| --- | --- | --- |
| 1. Identify and source pig feed raw materials | * + Meaning of the terms: * Nutrient * Nutrition * Food/Feed stuff * Diet * Ration * Compounded feed * Types of pig feed raw materials * Nutritional value of different pig feed raw materials * Carbohydrates * Proteins * Vitamins * Minerals * Water * Alternative pig feed resources * Procurement procedures of pig feed raw materials. * Storage of pig feed raw materials | * Written test * Observation * Third party report * Oral questioning * Interviews |
| 1. Identify and apply pig feed production formula | * + Nutrient requirements of pigs   + Methods of pig feed formulation * Pearson’s square * Simultaneous equation * Computer software * Factors determining the choice of pig feed production formula * Pig Feed Analysis * Physical Analysis * Chemical Analysis | * + Written test   + Observation   + Third party report   + Oral questioning   + Interviews |
| 1. Compound feed ration | * Workplace safety and regulations * Tools and Equipment used in compounding feed rations * Methods of preparing pig feed ingredients * Mixing pig feed ingredients * Packaging and storage of compound feed ration. * Work place waste management * Documentation of pig feed formulation activities. | * Written test * Observation * Third party report * Oral questioning * Interviews |
| 1. Marketing of pig feeds | * Meaning of the terms * Market * Marketing * Market Survey * Methods of market survey * Types of marketing channels * Developing a marketing strategy * Feed costing and sale of pig feeds * Documentation of marketing activities. | * Written test * Observation * Third party report * Oral questioning * Interviews |

**Suggested Methods of instructions**

* Projects
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction
* Field visits

**Recommended Resources**

|  |  |  |
| --- | --- | --- |
| Functional pig farm with the following: | | |
| * Tractors * Trailer * Chopping implements * Hammer mills * Grinding mills * Feed mixers * Feedstuff * Detergents * Fumigants * Sealing equipment * Labeling equipment * Shovel * Wheelbarrow * Canvas | * Water * Packaging material * Labels * Feed stores * Stationery * Weighing equipment * Calculators * Computer * Accounting documents * Store control documents * Pest control equipment and materials * Brooms * Scrubbers * mops | * Pelleting machines * Sampling kits * Feedstuff nutrient content tables * Gunny bags * Twines * PPEs * Waste management equipment and material * Livestock production manual * Source of power |

# PROCESSING OF PIG PRODUCTS AND BY-PRODUCTS

**UNIT CODE:** AGR/CU/PP/CR/01/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: produce pig products and by-products

**Duration of Unit:**  100 hours

**Unit Description**

This unit covers the competencies required to produce pig products and by-products. It involves identifying pig products and pig by-products to produce and identifying and preparing processing raw materials. It also entails processing meat to produce various pig products and processing pig waste products such as blood to produce pig by-products such as blood meal.

This standard applies in the pig production industry.

**Summary of Learning Outcomes**

1. Identify products and by-products to produce
2. Identify and prepare processing raw materials
3. Process meat to produce various pig products
4. Process pig waste products to produce pig by-products

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

| **Learning Outcome** | **Content** | **Methods of Assessment** |
| --- | --- | --- |
| * + - 1. Collect market data and information | * + Meaning of terms- market data, information, feedback   + Distribution and data collection tools | * Written test * Observation * Third party report * Oral questioning * Interviews |
| 1. Identify pig products and by-products to produce | * + Meaning of terms- products, by-products, value addition, utilization   + Types of products and by-products   + Factors affecting the choice of products to be produced | * Written test * Observation * Third party report * Oral questioning * Interviews |
| 1. Identify and prepare processing raw materials | * + Meaning of terms- raw materials, processing   + Types of raw materials   + Methods of processing   + Handling of raw materials | * + Written test   + Observation   + Third party report   + Oral questioning   + Interviews |
| 1. Process meat to produce various pig products | * Different types pig products * Factors to consider when selecting meat for processing pig products * Standard slaughter procedures * Types of meat cuts * Meat portioning * Food safety and hygiene when handling meat products * Tools and equipment used in processing pig products * Recipes of different pig products * Factors affecting shelf life of pig products * Packaging of processed pig products * Preservation of pig products * Safe storage of processed pig products * Personal safety and maintenance of machines and equipment * Documentation of pig by products processing * Quality assurance in pig products processing | * Written test * Observation * Third party report * Oral questioning * Interviews |
| 1. Process pig products to produce pig by-products | * Meaning of terms- pig waste products * Types of pig by-products * Methods of processing pig by- products * Packaging of pig by-products * Storage of by-products * Legal requirements in management of residual waste * Documentation of pig by products processing * Quality assurance in pig by products processing | * Written test * Observation * Third party report * Oral questioning * Interviews |

**Suggested Methods of instructions**

* Projects
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction

**Recommended Resources**

Tools and equipment

Chopping boards, vacuum packers, sterilizers, trays, band saws, mincers, bowl choppers, sausage casing machines, meat slicers, chopping knives, electric/mechanical stunners, butchers cleavers, sharpening steel, hooks and rollers, chain glove, electronic weighing balance, chutes, table conveyer belts, trolleys, galvanized wheel barrows, hoists, forklifts, spades, deep freezers, chillers, refrigerators, brooms, brushes, labeling and sealing machines, evaporators, air conditioners, smoking chambers, autoclave machines, quality assurance equipment and reagents

PPEs

White dust coats, white gumboots, gloves, white cap/helmet, hair nets, white plastic aprons, dust masks, safety goggles, ear muffs and first aid kits

Materials and supplies

Portable water, Raw materials, packaging materials, labeling materials, sanitizers, disposable towels, liquid soap dispensers, ultra violet insect traps, lubricants, detergents, stationery

Processing facility

Processing rooms, cold rooms, stores, cloak rooms, lavatory facilities, office space, furniture, condemnation pits, incinerators, washing basins, footbath, water reservoirs, laboratory, biogas digester

# PIGS, PIG PRODUCTS AND PIG BY-PRODUCTS MARKETING

**UNIT CODE:** AGR/CU/PP/CR/01/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: market pigs, pig products and pig by- products.

**Duration of Unit:** 80hours

**Unit Description**

This unit covers the competencies required to market pigs, pig products and pig by- products. It involves identifying market channels for pigs, pig products and pig by-products and developing and implementing a marketing strategy.

**Summary of Learning Outcomes**

1. Identify market channels
2. Develop and implement a marketing strategy

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

| **Learning Outcome** | **Content** | **Methods of Assessment** |
| --- | --- | --- |
| 1. Identify market channels | * + Meaning of terms: market, market survey, market channel, market policy, market segmentation, money, supply and demand, data, trade   + Types of market channels   + Methods of data collection   + Data and information collection tools   + Data organization and analysis   + Preparation of market survey reports and recommendations | * Written test * Observation * Third party report * Oral questioning * Interviews |
| 1. Develop and implement a marketing strategy | * + Meaning of terms: market strategy, 4Ps-product, price, promotion, profit, competitive advantage, supply and demand   + Product promotion methods   + Selection of product outlets   + Types of contractual agreements   + Product pricing   + New product development and promotion   + Analysis of market strategy   + Types of marketing records   + Documentation of marketing activities | * + Written test   + Observation   + Third party report   + Oral questioning   + Interviews |

**Suggested Methods of instructions**

* Projects
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction
* Field visits

**Recommended Resources**

PPEs, Capital, products, Stationery, market channels, means of transport, communication media, legal documents, office space, furniture, desktop computers/laptops, Internet connection, Projectors, Telephone, Report writing templates, Business plan templates, cold chain, product carriers, books of account, ETR Machines, market schedules