****

**REPUBLIC OF KENYA**

**COMPETENCY BASED CURRICULUM**

**FOR**

**AIRPORT OPERATIONS**

**LEVEL- 6**



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 Kenya’s development blue print 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 the 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 Aviation sector’s growth and sustainable 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 toreform 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 Aviation Sector Skills Advisory Committee (SSAC), have developed this curriculum.

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, Aviation SAC, expert workers and all those who participated in the development of this curriculum.

**Prof. CHARLES M. M. ONDIEKI, PhD, FIET (K), Con. Eng. Tech.**

**CHAIRMAN, TVET CDACC**

# ACKNOWLEDGEMENT

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 Aviation 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 aviation 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 aviation will acquire competencies that will enable them to perform their work more efficiently.

**Dr. LAWRENCE GUANTAI M’ITONGA, PhD COUNCIL SECRETARY/CEO**

**TVET CDACC**

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# ACRONYMS

LOG Logistics

AO Airport Operations

BC Basic Competency

CBET Competency Based Education and Training

CDACC Curriculum Development Assessment and Certification Council

CR Core Competency

CU Curriculum

ICT Information Communication Technology

KCSE Kenya Certificate of Secondary Education

KNQA Kenya National Qualifications Authority

MoE Ministry of Education

OS Occupational Standard

OSHA Occupation Safety and Health Act

OSHS Occupation Safety and Health Standards

PPE Personal Protective Equipment

SSAC Sector Skills Advisory Committee

TVET Technical and Vocational Education and Training

# KEY TO UNIT CODE

LOG/CU/AO/BC/01/6/A

Industry or sector

Curriculum

Occupational area

Type of competency

Competency number

Competency level

Control Version

# 

# COURSE OVERVIEW

Airport operations management Level 6 consists of competencies that an individual must achieve to manage airport operations in an effective manner. It entails managing dangerous goods, performing airport operations, demonstrating airport economics, carrying out aerodrome works, managing airside safety, providing airspace protection, managing airport environment, managing airport terminal, managing emergency incidents, managing air traffic congestion and marshalling aircraft.

This qualification consists of the following basic and core competencies:

**BASIC UNITS OF LEARNING**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit of Learning Code** | **Unit of Learning Title** | **Duration** | **Credit factor** |
| LOG/CU/AO/BC/01/6/A | Communication skills | 40 | 4 |
| LOG/CU/AO/BC/02/6/A | Numeracy skills | 60 | 6 |
| LOG/CU/AO/BC/03/6/A | Digital literacy | 60 | 6 |
| LOG/CU/AO/BC/04/6/A | Entrepreneurial skills | 100 | 10 |
| LOG/CU/AO/BC/05/6/A | Employability skills | 80 | 8 |
| LOG/CU/AO/BC/06/6/A | Environmental literacy | 40 | 4 |
| LOG/CU/AO/BC/07/6/A | Occupational safety and health practices | 40 | 4 |
| **Total** | | 420 | 42 |

**COMMON UNITS OF LEARNING**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** |  |  |
| LOG/CU/AO/CC/01/6/A | Air Traffic Movement | 235 | 23 |
| LOG/CU/AO/CC/02/6/A | Emergency incidents management | 240 | 24 |
| LOG/CU/AO/CC/03/6/A | Dangerous goods management | 230 | 24 |

**CORE UNITS OF LEARNING**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** |  |  |
| LOG/CU/AO/CR/01/6/A | Airport Operations Management | 200 | 20 |
| LOG/CU/AO/CR/02/6/A | Airport Economics | 240 | 24 |
| LOG/CU/AO/CR/03/6/A | Aerodrome Works | 240 | 24 |
| LOG/CU/AO/CR/04/6/A | Airside Safety | 247 | 25 |
| LOG/CU/AO/CR/05/6/A | Airport Security | 238 | 24 |
| LOG/CU/AO/CR/06/6/A | Airport Terminal | 240 | 24 |
| LOG/CU/AO/CR/07/6/A | Aircraft Marshalling | 220 | 22 |
| LOG/CU/AO/CR/08/6/A | Warehousing | 120 | 12 |
|  | Industrial attachment | 480 | 48 |
| **Total** | | 2,683 | 268 |
| **Grand total** | | 3,103 | 310 |

The core units of learning are independent of each other and may be taken independently.

The total duration of the course is 3,103 hours: 2,623 hours (4 semesters of 16 weeks each totalling 64 weeks at 30 hours per week) plus 480 hours (12 weeks by 5 days per week by 8 hours per day) of field attachment.

**Field Attachment**

It is envisaged that the trainee will have undergone a field training and assessment with a recognized media farm (production, breeding and hatchery) and processing firm as a prerequisite for completion of this training course. At least 480 hours (12 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 KCSE with mean grade of C- (minus)

**Or**

1. Airport Operations national Certificate Qualification Level 5

**Or**

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

**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 National certificate of competence on demonstration of competence in a unit of competency. To attain the National qualification of airport operations Manager Level 6, 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:** LOG/CU/AO/BC/01/6/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Communication Skills

**Duration of Unit:** 40 hours

**Unit Description**

This unit covers the competencies required to demonstrate communication skills. It involves, meeting communication needs of clients and colleagues; developing communication strategies, establishing and maintaining communication pathways, conducting interviews, facilitating group discussion and representing the organization.

**Summary of Learning Outcomes**

1. Meet communication needs of clients and colleagues
2. Develop communication strategies
3. Establish and maintain communication pathways
4. Promote use of communication strategies
5. Conduct interview
6. Facilitate group discussion
7. Represent the organization

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

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

**Suggested Methods of Instruction**

* Discussion
* Role playing
* Simulation
* Direct instruction

**Recommended Resources**

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

# NUMERACY SKILLS

**UNIT CODE:** LOG/CU/AO/BC/02/6/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Numeracy Skills.

**Duration of Unit:** 60 hours

**Unit Description**

This unit describes the competencies required to demonstrate numeracy skills. It involves applying a wide range of mathematical calculations for work; applying ratios, rates and proportions to solve problems; estimating, measuring and calculating measurement for work; using detailed maps to plan travel routes for work; using geometry to draw and construct 2D and 3D shapes for work; collecting, organizing and interpreting statistical data; using routine formula and algebraic expressions for work and using common functions of a scientific calculator.

**Summary of Learning Outcomes**

1. Apply a wide range of mathematical calculations for work
2. Apply ratios, rates and proportions to solve problems
3. Estimate, measure and calculate measurement for work
4. Use detailed maps to plan travel routes for work
5. Use geometry to draw and construct 2D and 3D shapes for work
6. Collect, organize and interpret statistical data
7. Use routine formula and algebraic expressions for work
8. Use common functions of a scientific calculator

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Apply a wide range of mathematical calculations for work | * Fundamentals of mathematics * Addition, subtraction, multiplication and division of positive and negative numbers * Algebraic expressions manipulation * Forms of fractions, decimals and percentages * Expression of numbers as powers and roots | * Written tests * Assignments * Supervised exercises |
| 1. Apply ratios, rates and proportions to solve problems | * Rates, ratios and proportions * Meaning * Conversions into percentages * Direct and inverse proportions determination * Performing calculations * Construction of graphs, charts and tables * Recording of information | * Written tests * Assignments * Supervised exercises |
| 1. Estimate, measure and calculate measurement for work | * Units of measurements and their symbols * Identification and selection of measuring equipment * Conversion of units of measurement * Perimeters of regular figures * Areas of regular figures * Volumes of regular figures * Carrying out measurements * Recording of information | * Assignments * Supervised exercises * Written tests |
| 1. Use detailed maps to plan travel routes for work | * Identification of features in routine maps and plans * Symbols and keys used in routine maps and plans * Identification and interpretation of orientation of map to North * Demonstrate understanding of direction and location * Apply simple scale to estimate length of objects, or distance to location or object * Give and receive directions using both formal and informal language * Planning of routes * Calculation of distance, speed and time | * Written * Practical test |
| 1. Use geometry to draw and construct 2D and 3D shapes for work | * Identify two dimensional shapes and routine three dimensional shapes in everyday objects and in different orientations * Explain the use and application of shapes * Use formal and informal mathematical language and symbols to describe and compare the features of two dimensional shapes and routine three dimensional shapes * Identify common angles * Estimate common angles in everyday objects * Evaluation of unknown angles * Use formal and informal mathematical language to describe and compare common angles * Symmetry and similarity * Use common geometric instruments to draw two dimensional shapes * Construct routine three dimensional objects from given nets |  |
| 1. Collect, organize and interpret statistical data | * + Classification of data * Grouped data * Ungrouped data   + Data collection * Observation * Recording   + Distinguishing between sampling and census   + Importance of sampling   + Errors in sampling   + Types of sampling and their limitations e.g. * Stratified random * Cluster * Judgmental   + Tabulation of data * Class intervals * Class boundaries * Frequency tables * Cumulative frequency   + Diagrammatic and graphical presentation of data e.g. * Histograms * Frequency polygons * Bar charts * Pie charts * Cumulative frequency curves   + Interpretation of data | * Assignments * Supervised exercises * Written tests |
| 1. Use routine formula and algebraic expressions for work | * + Solving linear equations   + Linear graphs * Plotting * Interpretation * Applications of linear graphs * Curves of first and second degree * Plotting * Interpretation | * Assignments * Supervised exercises * Written tests |
| 8. Use common functions of a scientific calculator | * Identify and use keys for common functions on a calculator * Calculate using whole numbers, money and routine decimals and percentages * Calculate with routine fractions and percentages * Apply order of operations to solve multi-step calculations * Interpret display and record result | * Written * Practical test |

**Suggested Methods of Instruction**

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

**Recommended Resources**

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

# DIGITAL LITERACY

**UNIT CODE:** LOG/CU/AO/BC/03/6/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Digital Literacy

**Duration of Unit:** 60 hours

**Unit Description**

This unit describes competencies required to demonstrate digital literacy. It involves in identifying computer software and hardware, applying security measures to data, hardware, software in automated environment, computer software in solving task, internet and email in communication at workplace, desktop publishing in official assignments and preparing presentation packages.

**Summary of Learning Outcomes**

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

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

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

**Suggested Methods of Instruction**

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

**Recommended Resources**

* Computers
* Printers
* Storage devices
* Internet access

# ENTREPRENEURIAL SKILLS

**UNIT CODE:** LOG/CU/AO/BC/04/6/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Entrepreneurial Skills

**Duration of unit:** 100 hours

**Unit Description**

This unit covers the competencies required to demonstrate understanding of entrepreneurship. It involves demonstrating understanding of an entrepreneur, entrepreneurship and self-employment. It also involves identifying entrepreneurship opportunities, creating entrepreneurial awareness, applying entrepreneurial motivation and developing business innovative strategies.

**Summary of Learning Outcomes**

* 1. Demonstrate understanding of who an entrepreneur
  2. Demonstrate knowledge of entrepreneurship and self-employment
  3. Identify entrepreneurship opportunities
  4. Create entrepreneurial awareness
  5. Apply entrepreneurial motivation
  6. Develop business innovative strategies
  7. Develop Business plan

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Demonstrate knowledge of entrepreneurship and self-employment | * Importance of self-employment * Requirements for entry into self-employment * Role of an Entrepreneur in business * Contributions of Entrepreneurs to National development * Entrepreneurship culture in Kenya * Born or made entrepreneurs | * Individual/group assignments * Projects * Written tests * Oral questions * Third party report |
| 1. Identify entrepreneurship opportunities | * Business ideas and opportunities * Sources of business ideas * Business life cycle * Legal aspects of business * Assessment of product demand * Business environment * Factors to consider when evaluating business environment * Technology in business | * Individual/group assignments * Projects * Written tests * Oral questions * Third party report * Interviews |
| 1. Create entrepreneurial awareness | * Forms of businesses * Sources of business finance * Factors in selecting source of business finance * Governing policies on Small Scale Enterprises (SSEs) * Problems of starting and operating SSEs | * Individual/group assignments * Projects * Written tests * Oral questions * Third party report * Interviews |
| 1. Apply entrepreneurial motivation | * Internal and external motivation * Motivational theories * Self-assessment * Entrepreneurial orientation * Effective communications in entrepreneurship * Principles of communication * Entrepreneurial motivation | * Case studies * Individual/group assignments * Projects * Written tests * Oral questions * Third party report * Interviews |
| 1. Develop business innovative strategies | * Innovation in business * Small business Strategic Plan * Creativity in business development * Linkages with other entrepreneurs * ICT in business growth and development | * Case studies * Individual/group assignments * Projects * Written tests * Oral questions * Third party report * Interviews |
| 1. Develop Business Plan | * Business description * Marketing plan * Organizational/Management * plan * Production/operation plan * Financial plan * Executive summary * Presentation of Business Plan | * Case studies * Individual/group assignments * Projects * Written tests * Oral questions * Third party report * Interviews |

**Suggested Methods of Instruction**

* Direct instruction
* Project
* Case studies
* Field trips
* Discussions
* Demonstration
* Question and answer
* Problem solving
* Experiential
* Team training

**Recommended Resources**

* Case studies
* Business plan templates
* Computers
* Overhead projectors
* Internet
* Mobile phone
* Video clips
* Films
* Newspapers and Handouts
* Business Journals
* Writing materials

# EMPLOYABILITY SKILLS

**UNIT CODE:** LOG/CU/AO/BC/05/6/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Employability Skills

**Duration of Unit:** 80 hours

**Unit Description**

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

**Summary of Learning Outcomes**

1. Conduct self-management
2. Demonstrate interpersonal communication
3. Demonstrate critical safe work habits
4. Lead a workplace team
5. Plan and organize work
6. Maintain professional growth and development
7. Demonstrate workplace learning
8. Demonstrate problem solving skills
9. Manage ethical performance

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Conduct self-management | * Self-awareness * Formulating personal vision, mission and goals * Strategies for overcoming life challenges * Managing emotions * Emotional intelligence * Assertiveness versus aggressiveness * Expressing personal thoughts, feelings and beliefs * Developing and maintaining high self-esteem * Developing and maintaining positive self-image * Setting performance targets * Monitoring and evaluating performance * Articulating ideas and aspirations * Accountability and responsibility * Good work habits * Self-awareness * Values and beliefs * Self-development * Financial literacy * Healthy lifestyle practices * Adopting safety practices | * Written tests * Oral questioning * Interviewing * Portfolio of evidence * Third party report |
| 1. Demonstrate interpersonal communication | * Meaning of interpersonal communication * Listening skills * Types of audience * Public speaking * Writing skills * Negotiation skills * Reading skills * Meaning of empathy * Understanding customers’ needs * Establishing communication networks * Assertiveness * Sharing information | * Written tests * Oral questioning * Interviewing * Portfolio of evidence * Third party report |
| 1. Demonstrate critical safe work habits | * Stress and stress management * Time concept * Punctuality and time consciousness * Leisure * Integratingpersonal objectives into organizational objectives * Resources mobilization * Resources utilization * Setting work priorities * Developing healthy relationships * HIV and AIDS * Drug and substance abuse * Managing emerging issues | * Written tests * Oral questioning * Interviewing * Portfolio of evidence * Third party report |
| 1. Lead a workplace team | * Leadership qualities * Power and authority * Team building * Determination of team roles and objectives * Team parameters and relationships * Individual responsibilities in a team * Forms of communication * Complementing team activities * Gender and gender mainstreaming * Human rights * Developing healthy relationships * Maintaining relationships * Conflicts and conflict resolution * Coaching and mentoring skills | * Written tests * Oral questioning * Interviewing * Portfolio of evidence * Third party report |
| 1. Plan and organize work | * Functions of management * Planning * Organizing * Time management * Decision making concept * Task allocation * Developing work plans * Developing work goals/objectives and deliverables * Monitoring work activities * Evaluating work activities * Resource mobilization * Resource allocation * Resource utilization * Proactive planning * Risk evaluation * Problem solving * Collecting, analysing and organising information * Negotiation | * Written tests * Oral questioning * Interviewing * Portfolio of evidence * Third party report |
| 1. Maintain professional growth and development | * Avenues for professional growth * Training and career opportunities * Assessing training needs * Mobilizing training resources * Licenses and certifications for professional growth and development * Pursuing personal and organizational goals * Managing work priorities and commitments * Recognizing career advancement | * Written tests * Oral questioning * Interviewing * Portfolio of evidence * Third party report |
| 1. Demonstrate workplace learning | * Managing own learning * Mentoring * Coaching * Contributing to the learning community at the workplace * Cultural aspects of work * Networking * Variety of learning context * Application of learning * Safe use of technology * Taking initiative/proactivity * Flexibility * Identifying opportunities * Generating new ideas * Workplace innovation * Performance improvement * Managing emerging issues * Future trends and concerns in learning | * Written tests * Oral questioning * Interviewing * Portfolio of evidence * Third party report |
| 1. Demonstrate problem solving skills | * Critical thinking process * Data analysis tools * Decision making * Creative thinking * Development of creative, innovative and practical solutions * Independence in identifying and solving problems * Solving problems in teams * Application of problem-solving strategies * Testing assumptions * Resolving customer concerns | * Written tests * Oral questioning * Interviewing * Portfolio of evidence * Third party report |
| 1. Manage ethical performance | * Meaning of ethics * Ethical perspectives * Principles of ethics * Ethical standards * Organization code of ethics * Common ethical dilemmas * Organization culture * Corruption, bribery and conflict of interest * Privacy and data protection * Diversity, harassment and mutual respect * Financial responsibility/accountability * Etiquette * Personal and professional integrity * Commitment to jurisdictional laws * Emerging issues in ethics | * Written tests * Oral questioning * Interviewing * Portfolio of evidence * Third party report |

**Suggested Methods of Instruction**

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

**Recommended Resources**

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

# ENVIRONMENTAL LITERACY

**UNIT CODE**:LOG/CU/AO/BC/06/6/A

**Relationship to Occupational Standards**:

This unit addresses the Unit of Competency: Demonstrate Environmental Literacy

**Duration of Unit:** 40 hours

**Unit Description**

This unit describes the competencies required demonstrate environmental literacy.it involves controlling environmental hazard, controlling environmental pollution, complying with workplace sustainable resource use, evaluating current practices in relation to resource usage, identifying environmental legislations/conventions for environmental concerns, implementing specific environmental programs, monitoring activities on environmental protection/programs, analysing resource use and developing resource conservation plans.

**Summary of Learning Outcomes**

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

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

**Suggested Methods of Instruction**

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

**Recommended Resources**

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

# OCCUPATIONAL SAFETY AND HEALTH PRACTICES

**UNIT CODE:** LOG/CU/AO/BC/07/6/A

**Relationship to Occupational Standards**

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

**Duration of Unit:** 40 hours

**Unit Description**

This unit specifies the competencies required to demonstrate occupational health and safety practices. It involves identifying workplace hazards and risk, identifying and implementing appropriate control measures to hazards and risks and implementing OSH programs, procedures and policies/guidelines.

**Summary of Learning Outcomes**

1. Identify workplace hazards and risk
2. Control OSH hazards
3. Implement OSH programs

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Identify workplace hazards and risks | * Identification of hazards in the workplace and/or the indicators of their presence * Evaluation and/or work environment measurements of OSH hazards/risk existing in the workplace * Gathering of OSH issues and/or concerns | * Oral questions * Written tests * Portfolio of evidence * Third party report |
| 1. Control OSH hazards | * Prevention and control measures e.g. use of PPE * Risk assessment * Contingency measures | * Oral questions * Written tests * Portfolio of evidence * Third party report |
| 1. Implement OSH   programs | * Company OSH program, evaluation and review * Implementation of OSH programs * Training of team members and advice on OSH standards and procedures * Implementation of procedures for maintaining OSH-related records | * 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**

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

# COMMON UNITS OF LEARNING

# AIR TRAFFIC MANAGEMENT

**UNIT CODE:** LOG/CU/AO/CC/01/6/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: **manage air traffic movement**

**Duration of Unit:** 235 hours

**Unit Description**

This unit specifies the competencies required to manage air traffic movement. It involves managing traffic flow, performing ATC services, establishing traffic sequence, demonstrating understanding of International Civil Aviation Organization (ICAO) rules, regulations and Perform aeronautical integrated packages.

**Summary of Learning Outcomes**

1. Manage traffic flow
2. Perform ATC services
3. Establish traffic sequence
4. Demonstrate understanding of ICAO rules and regulations
5. Perform Aeronautical integrated packages

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Manage traffic flow | * Introduction to air traffic flow * Objectives of traffic flow * Classification of air space * Types of aircraft * Aerodrome traffic layout * Air-traffic management procedures * Airport categories * Traffic patterns. * Traffic order. * Air traffic control systems. * Phases of air traffic flight * Air traffic automation | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Perform ATC services | * Meaning of terms * Functions of ATC * Types of air traffic services * Services of air traffic unit * roles of air traffic unit * Radio-telephone procedures * ATC communication procedures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Establish traffic sequence | * Meaning of terms * Importance of traffic sequence * Flight separation methods * Aircraft categories * Air Traffic management sequence patterns * Landing and taking off procedures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Demonstrate understanding of ICAO rules and regulations | * Introduction to ICAO rules and regulations * Hazards identification and mitigation * ICAO standards and recommended practises * Risk assessment and mitigation procedures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Perform Aeronautical integrated packages | * Meaning of terms * Importance of Aeronautical services * Aeronautical information services * Contents of Aeronautical services * Transmission of Aeronautical information * Promulgation of NOTAM | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Delivery**

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

**Recommended Resources**

* Refuelers
* Tugs and tractors
* Ground power units
* Buses
* Container loader
* Transporters
* Air Start Unit (ASU)
* Potable water trucks
* Lavatory service vehicles
* Catering vehicle
* Belt loaders
* Passenger boarding steps/stairs
* Pushback tugs and tractors
* De/anti-icing vehicles

# AIRPORT EMERGENCY RESPONSE

**UNIT CODE:** LOG/CU/AO/CC/02/6/A

Relationship to Occupational Standards

This unit addresses the Unit of Competency: manage emergency incidents

**Duration of Unit:** 240 hours

**Unit Description**

This unit specifies the competencies required to manage emergency incidents. It involves analysing emergency information, carrying out emergency response, coordinating emergency responses, assessing emergency response/actions and undertaking post-emergency evaluation.

**Summary of Learning Outcomes**

1. Analyse emergency information
2. Carry out emergency response
3. Coordinate emergency responses
4. Assess emergency response/actions
5. Undertake post-emergency evaluation

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Analyse emergency information | * Introduction to emergency incidents * Phases of emergencies * Collection of emergency information * Emergency information analysis * Communication and dissemination procedures * Responsibility and resource allocation | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Carry out emergency response | * Emergency response action plan * External agencies support * Damage control measures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Coordinate emergency responses | * Emergency response communication * Emergency response resource mobilization * Emergency coordination centres * Emergency response strategies | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Assess emergency response/actions | * Risk assessment. * Mitigation strategies * Quality assurance. * Resumption of normal operation. * Continuous monitoring. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Undertake post-emergency evaluation | * Introduction to post emergency evaluation. * Emergency evaluation. * Post emergency procedure. * modification and adjustment   + of policies. * Emergency planning training and review policies. * Emergency recovery plan.. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Delivery**

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

**Recommended Resources**

* Refuelers
* Tugs and tractors
* Ground power units
* Buses
* Container loader
* Transporters
* Air Start Unit (ASU)
* Potable water trucks
* Lavatory service vehicles
* Catering vehicle
* Belt loaders
* Passenger boarding steps/stairs
* Pushback tugs and tractors
* De/anti-icing vehicles

# DANGEROUS GOODS

**UNIT CODE:** LOG/CU/AO/CC/03/6/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: **manage dangerous goods**

**Duration of Unit:** 230 hours

**Unit Description**

This unit specifies the competencies required to manage dangerous goods. It involves inspecting dangerous goods, classifying dangerous goods, preparing dangerous goods records, and loading/off-loading dangerous goods.

**Summary of Learning Outcomes**

1. Inspect dangerous goods
2. Classify dangerous goods
3. Package dangerous goods
4. Prepare dangerous goods records
5. Load/off-load dangerous goods

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Inspect dangerous goods | * Introduction to dangerous goods * Characteristics of dangerous goods * Types of dangerous goods * Screening procedures * Methods of screening * Methods of packaging * Labelling methods * Examination procedures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Classify dangerous goods | * Meaning of terms * Importance of classification * Classification of dangerous goods * Ways of dangerous goods identification * International and national standards | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Package dangerous goods | * Meaning of terms * Packaging objectives * Methods of packaging * Packaging materials elements * Packaging procedures * Packaging rules and regulations | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Load/off-load dangerous goods | * Introduction to load/offload of dangerous goods * Loading/offloading of dangerous goods tools and equipment * Load/offload procedures * Handling techniques * Work place safety practises | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Prepare dangerous goods records | * Meaning of terms * Importance of record keeping * Material safety data declaration * Ways of records preparation * Storage procedures * Storage methods * National and international standards | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Delivery**

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

**Recommended Resources**

* Refuelers
* Tugs and tractors
* Ground power units
* Buses
* Container loader
* Transporters
* Air Start Unit (ASU)
* Potable water trucks
* Lavatory service vehicles
* Catering vehicle
* Belt loaders
* Passenger boarding steps/stairs
* Pushback tugs and tractors
* De/anti-icing vehicles

# CORE UNITS OF LEARNING

# AIRPORT OPERATIONS MANAGEMENT

**UNIT CODE:** LOG/CU/AO/CR/01/6/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: perform airport operations

**Duration of Unit:** 200 hours

**Unit Description**

This unit specifies the competencies required to perform airport operations. It involves managing airport security, managing passenger process, managing airport meteorology, managing airport cargo, managing airport telecommunication, preparing airport schedules, managing airport users and maintaining airport equipment.

**Summary of Learning Outcomes**

1. Manage airport security
2. Manage passenger process
3. Manage airport meteorology
4. Manage airport cargo
5. Manage airport telecommunication
6. Prepare airport schedules
7. Manage airport users
8. Maintain airport equipment

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Manage airport security | * Introduction to airport operations * Airport security * Meaning of terms * Airport security problems * Airport components * Airport operator’s security program * Aircraft operators security program * Security tools and equipment * Security measures/procedures * The impact of security to aviation global economy | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage passenger process | * Introduction to flight dispatch * Passenger briefing process * Types of emergencies * Hazardous conditions * Emergency/evacuation procedures * Evacuation equipment | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage airport meteorology | * Introduction to meteorology * Branches of meteorology * Meteorology equipment/materials * Atmosphere * Layers of the atmosphere * Atmospheric conditions * Weather patterns * Effects of weather elements * Geographical maps | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage airport cargo | * Introduction to airport cargo * International commercial terms (INCOTERMS) * Types of cargo * Dangerous goods * Aircraft weight and balance * Packing/unpacking procedures * Packaging procedures * Loading regulations * Special handling provisions * Freight rates * Loading/offloading equipment * Loading /offloading methods * Documentation procedures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage airport telecommunication | * Introduction to aviation communication * Radio telephone language * Communication equipment * Messages transmission procedures * Navigation * Radio telephone equipment * Radio telephone monitoring * Airport telecommunication procedures | * Written tests * Observation * Oral questions * Third party report * Interviewing |
| 1. Prepare airport schedules | * Meaning of terms * Customer travel pattern * Types of flight * Global distribution flight schedule * Regulations t flight schedules * Airport concessions | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage airport users | * Introduction to airport customers * Airlines * Passengers * Operating partners * Government agencies * Airport visitors | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Maintain airport equipment | * Airport equipment * Equipment airport management * Equipment safety requirement * Equipment maintenance procedures * Equipment storage and disposal * Stores management * Maintenance records process | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Delivery**

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

**Recommended Resources**

* Refuelers
* Tugs and tractors
* Ground power units
* Buses
* Container loader
* Transporters
* Air Start Unit (ASU)
* Potable water trucks
* Lavatory service vehicles
* Catering vehicle
* Belt loaders
* Passenger boarding steps/stairs
* Pushback tugs and tractors
* De/anti-icing vehicles

# AIRPORT ECONOMICS

**UNIT CODE:** LOG/CU/AO/CR/02/6/A

Relationship to Occupational Standards

This unit addresses the Unit of Competency: apply airport economics

**Duration of Unit:** 240 hours

**Unit Description**

This unit specifies the competencies required to apply airport economics. It involves applying airport economic principles, evaluating airport economic aspects, reviewing economic work and maintaining airport economic policies.

**Summary of Learning Outcomes**

1. Apply airport economic principles
2. Evaluate airport economic aspects
3. Review economic work
4. Maintain airport economic policies

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Apply airport economic principles | * Introduction to airport economics * Ways of generating income * Cost recoveries * Microeconomic theory * Capital management * Economic principles * Airport capacity * Competition * Market planning | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Evaluate airport economic aspects | * Meaning of terms * Introduction to financial modelling techniques * Sources of airport funds * Asset pricing models * Airport economic impact * Airport economic effects. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Review economic work | * Benefits economic analysis. * Periodic review. * Audit plans. * Quality assurance. * Economic principles evaluation. * Economic key performance indicators. * Management of change process. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Maintain airport economic policies | * Airport slots management. * Maintaining airport economic value. * Assessment Quality assurance policies. * Economic collaborative decision marking (CBM). * Gross domestic products evaluation. * Economies of scale. * Use of economic models. * Resources allocation. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Delivery**

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

**Recommended Resources**

* Refuelers
* Tugs and tractors
* Ground power units
* Buses
* Container loader
* Transporters
* Air Start Unit (ASU)
* Potable water trucks
* Lavatory service vehicles
* Catering vehicle
* Belt loaders
* Passenger boarding steps/stairs
* Pushback tugs and tractors
* De/anti-icing vehicles

# AERODROME WORKS

**UNIT CODE:** LOG/CU/AO/CR/03/6/A

Relationship to Occupational Standards

This unit addresses the Unit of Competency: carry out aerodrome works

**Duration of Unit:** 240 hours

**Unit Description**

This unit specifies the competencies required to determine aerodrome works. It involves inspecting aerodrome serviceability, reporting hazardous serviceability, facilitating repairs aerodrome, reporting aerodrome serviceability, facilitating aerodrome access and maintaining aerodrome works.

**Summary of Learning Outcomes**

1. Inspect aerodrome serviceability
2. Report hazardous serviceability
3. Facilitate aerodrome repairs
4. Report aerodrome serviceability
5. Facilitate aerodrome access
6. Prepare aerodrome works
7. Maintain aerodrome works.

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Inspect aerodrome serviceability | * Introduction to aerodrome services. * Classification of aerodromes. * Aerodrome layout. * Components of aerodromes. * Inspection Aerodrome equipment. * Aerodrome equipment serviceability. * Environmental analysis. * Aerodromes accessibility. * Equipment maintenance procedures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Report hazardous serviceability | * Introduction to hazards. * Hazards indications. * Types of hazards. * Hazards reporting process. * Hazards disseminations. * Hazards disposal procedures. * Hazards prevention methods. * Impacts of hazards. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Facilitate aerodrome repairs | * Importance of aerodromes repairs. * Routine aerodrome maintenance procedures. * Airport facilities. * Airport markings, signage and colours. * Communication and navigations facilities. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Report aerodrome serviceability | * Introduction to reporting procedures. * Promulgations of airport notices. * Function unit conditions. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Facilitate aerodrome access | * Introduction to airport access procedures. * Personnel access. * Vehicle and equipment access. * Security control measure to access the airport. * Vetting of personnel. * Procedure of handling emergency situation. * . | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Prepare aerodrome works | * Introduction to aerodromes works. * Work plan. * Aerodromes routine maintenance schedule. * Operating standards for certified equipment. * Factors affecting safety. * Risks control measures. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Maintain aerodrome works. | * Introduction to maintenance aerodrome works. * Aerodromes movement areas. * Methods of working plans. * NOTAMs. * Procedures of marker and barriers | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Delivery**

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

**Recommended Resources**

* Refuelers
* Tugs and tractors
* Ground power units
* Buses
* Container loader
* Transporters
* Air Start Unit (ASU)
* Potable water trucks
* Lavatory service vehicles
* Catering vehicle
* Belt loaders
* Passenger boarding steps/stairs
* Pushback tugs and tractors
* De/anti-icing vehicles

# AIRSIDE SAFETY

**UNIT CODE:** LOG/CU/AO/CR/04/6/A

Relationship to Occupational Standards

This unit addresses the Unit of Competency: manage airside safety

**Duration of Unit**: 247 hours

**Unit Description**

This unit specifies the competencies required to manage airside safety**.** It involves developing emergency and damage control plans, developing security risk management plans, maintaining the operational systems, organizing emergency drills, managing airside emergencies, maintaining operational safety and maintaining security risks response.

**Summary of Learning Outcomes**

1. Develop emergency control plans
2. Develop security risk management plans
3. Maintain operational security systems
4. Organize emergency drills
5. Manage Airside emergencies
6. Maintain operational safety
7. Maintain security risks response

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Develop emergency control plans | * Introduction to airside safety * Airside Personal protective equipment (PPE) * Airside operating procedures * Airside hazards and mitigation * Airside emergency response plan * Importance of emergency plan | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Develop security risk management plans | * Meaning of terms * Risks and threats identification * Types of security risks * Effective security planning * Security drills * Risk control measures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Maintain operational security systems | * Introduction to security systems * Security awareness * Security treats assessment * Integrated security systems. * Management commitment and communication to stakeholders. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Organize emergency drills | * Meaning of terms. * Emergency drill planning. * Types of drills. * Objectives of drills. * Drill procedures. * Legal objectives. * Tips of effective emergency drill. * Emergency preparedness. * Evacuation procedures. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage Airside emergencies | * Introduction to airside emergencies. * Emergency communication. * Emergency preparedness plan. * Emergency respond procedures. * Emergency equipment. * Rescue and fire fighting services. * International and national standards. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Maintain operational safety | * Introduction to airport safety. * Safety audits. * Safety approaches and standards. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Maintain security risks response | * Introduction to airport security risk. * Security risks identification * Respond procedures. * Security risk management. * Maintaining security risk management. * Aviation cyber security strategies. * Aviation terrorism and security. * Emerging trends. * Aviation cyber-crimes. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Delivery**

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

**Recommended Resources**

* Refuelers
* Tugs and tractors
* Ground power units
* Buses
* Container loader
* Transporters
* Air Start Unit (ASU)
* Potable water trucks
* Lavatory service vehicles
* Catering vehicle
* Belt loaders
* Passenger boarding steps/stairs
* Pushback tugs and tractors
* De/anti-icing vehicles

**PROVIDE AIRSPACE PROTECTION**

UNIT CODE:

Relationship to Occupational Standards

This unit addresses the Unit of Competency: provide airspace protection

Duration of Unit:

**Unit Description**

This unit specifies the competencies required to provide airspace protection. It involves applying controlled airspace procedures, applying unusual and emergency response procedures, managing passengers during normal operations, managing passengers during an abnormal or emergency situation and managing air cargo.

**Summary of Learning Outcomes**

1. Apply controlled airspace procedures
2. Apply unusual and emergency response procedures
3. Manage passengers during normal operations
4. Manage passengers during an unusual or emergency
5. Manage Air cargo

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Apply controlled airspace procedures | * Introduction to airside safety. * Classes of airspace. * Airspace control instruction. * Weather conditions affecting airspace. * Air traffic service unit. * Navigation charts. * Separation of IFR and VFR. * Restricted prohibited and danger areas. * Radio navigation. * Rules of the air. * Abnormal and emergency situation. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Apply unusual and emergency response procedures | * Introduction to unusual and emergence response. * Unusual emergence guidelines. * Apply abnormal situation. * Emergency plan. * Air traffic communication emergency procedures. * Radio communication failure emergency procedures. * Radio telephony equipment. * . | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage passengers during normal operations | * Introduction to passenger safety. * Passengers safety brief. * Passenger comfort. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage passengers during an unusual or emergency | * Introduction to passenger on unusual or emergency. * Passengers safety brief on during unusual and emergency. * Types of unusual or emergencies. * Communication to air traffic unit and operational control centre. * Medical emergency. * Passenger handling. * Aircraft Evacuation. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage Air cargo | * Introduction to air cargo. * Types of cargo. * Classification of cargo. * Cargo calculations. * Regal requirement. * Manage documentations. | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Delivery**

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

**Recommended Resources**

* Refuelers
* Tugs and tractors
* Ground power units
* Buses
* Container loader
* Transporters
* Air Start Unit (ASU)
* Potable water trucks
* Lavatory service vehicles
* Catering vehicle
* Belt loaders
* Passenger boarding steps/stairs
* Pushback tugs and tractors
* De/anti-icing vehicles

# AIRPORT SECURITY

**UNIT CODE:** LOG/CU/AO/CR/05/6/A

Relationship to Occupational Standards

This unit addresses the Unit of Competency: manage airport security

**Duration of Unit:** 238 hours

**Unit Description**

This unit specifies the competencies required to manage airport security. It involves designing airport layout, managing people on security zone, inspecting vehicles on security zone, managing vehicles on security zone and managing control systems access.

**Summary of Learning Outcomes**

1. Design airport layout
2. Manage airport environment
3. Manage people on security zone
4. Inspect vehicles on security zone
5. Manage vehicles on security zone
6. Manage control systems access

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Design airport layout | * Introduction to airport environment. * Instrumentation of pavement * New generation runway grooving * Construction methods * Fuel resistance * Navigational and lighting equipment * Airport accessibility | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage airport environment | * Introduction to airport environment * Airport location * Environmental pollution * Economic aspects of the airport * Topography * Geological factors * World life control | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage people on security zone | * Meaning of terms * Airport enforcement authority * Airport security techniques and methods * Notable security incidents * Employment history verification * Screening procedures * Security zoning * Restricted area pass program * Fighting the insider treat * Aviation security and its implications * Security records | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Inspect vehicles on security zone | * Meaning of terms * Air operations area vehicle registration * Traffic enforcement * Security requirement * Vulnerability assessment | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage vehicles on security zone | * Best practises for safe driving * Vehicle light gun signals * Traffic patterns * Control of access | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage control systems access | * Introduction control systems access * Types of security control systems * Importance of security controls * Serviceability procedures * Emerging security trends | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Delivery**

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

**Recommended Resources**

* Refuelers
* Tugs and tractors
* Ground power units
* Buses
* Container loader
* Transporters
* Air Start Unit (ASU)
* Potable water trucks
* Lavatory service vehicles
* Catering vehicle
* Belt loaders
* Passenger boarding steps/stairs
* Pushback tugs and tractors
* De/anti-icing vehicles

# AIRPORT TERMINAL

**UNIT CODE:** LOG/CU/AO/CR/05/6/A

Relationship to Occupational Standards

This unit addresses the Unit of Competency: manage airport terminal

**Duration of Unit:** 240 hours

**Unit Description**

This unit specifies the competencies required to manage airport terminal. It involves preparing airport terminal, overseeing terminal operations, terminal resourcing, managing safety system and developing terminal emergency procedures.

**Summary of Learning Outcomes**

1. Prepare airport terminal
2. Oversee terminal operations
3. Oversee terminal resourcing
4. Manage safety system
5. Develop terminal emergency procedures

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Prepare airport terminal | * Introduction to airport terminal * Purposes of airport terminal * Terminal operational methods * Airport terminal design * Factors affecting terminal operations * Boarding and turn-round * Future terminal trends | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Oversee terminal operations | * Departures and arrival management * Communication protocols * Factors affecting terminal optimal * Terminal optimal strategies * Safe discharge, organization, storage and movement of cargo | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Oversee terminal resourcing | * Terminal functions * Terminal operations equipment * External supplies * Terminal maintenance requirement | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage safety system | * Meaning of terms * Types of safety systems * Terminal safety plans * Terminal safety equipment * Airport customer access management control | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Develop terminal emergency procedures | * Introduction to terminal emergency procedures * Terminal hazards and risks * Terminal emergency response procedures * Terminal emergency equipment * Emergency agencies * Emergency drills | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Delivery**

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

**Recommended Resources**

* Refuelers
* Tugs and tractors
* Ground power units
* Buses
* Container loader
* Transporters
* Air Start Unit (ASU)
* Potable water trucks
* Lavatory service vehicles
* Catering vehicle
* Belt loaders
* Passenger boarding steps/stairs
* Pushback tugs and tractors
* De/anti-icing vehicles

# AIRCRAFT MARSHALLING

**UNIT CODE:** LOG/CU/AO/CR/07/6/A

Relationship to Occupational Standards

This unit addresses the Unit of Competency: marshal aircraft

**Duration of Unit:** 220 hours

**Unit Description**

This unit specifies the competencies required to marshal aircraft. It involves preparing aircraft for marshalling, establishing aircraft parking and conducting aircraft marshalling.

**Summary of Learning Outcomes**

1. Prepare Aircraft for marshalling.
2. Establish aircraft parking
3. Carry out aircraft marshalling

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Prepare Aircraft for marshalling. | * Introduction to aircraft marshalling * Pay/stand allocations procedures * Marshalling equipment * Marshalling methods * Auxiliary equipment * Marshalling risks * Marshalling records | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Establish aircraft parking | * Meaning of terms * Aircraft categories * Parking equipment * Environmental factors * Parking styles * Service movement control procedures * Aeronautical charges | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Carry out aircraft marshalling | * Marshalling signage * Marshalling procedures * Types of marshalling signals * Safety procedures * Security measures * Ramp/apron handling | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Delivery**

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

**Recommended Resources**

* Refuelers
* Tugs and tractors
* Ground power units
* Buses
* Container loader
* Transporters
* Air Start Unit (ASU)
* Potable water trucks
* Lavatory service vehicles
* Catering vehicle
* Belt loaders
* Passenger boarding steps/stairs
* Pushback tugs and tractors
* De/anti-icing vehicles

# WAREHOUSING

**UNIT CODE:** LOG/CU/AO/CR/08/6/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: **perform warehousing operations**

**Duration of Unit:** 120 hours

**Unit Description**

This unit describes competencies required to performing warehousing operations. It involves designing warehouse layout, maintaining warehoused goods layout, maintaining records of stored goods, maintaining quality of stored goods, securing stored goods and managing warehouse plant and equipment.

**Summary of Learning Outcomes**

1. Design warehouse layout
2. Maintain warehoused goods layout
3. Maintain stored goods records
4. Maintain stored goods quality
5. Secure stored goods
6. Manage warehouse plant and equipment

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

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment Methods** |
| 1. Design warehouse layout | * Introduction to warehousing * Characteristics of a warehouse * Warehousing factors * Types of warehouses * Designing procedures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Maintain warehoused goods layout | * Meaning of terms * Classification of goods * Types of warehouse layout * Storage requirements * Safety procedures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Maintain stored goods records | * Introduction to record keeping * Importance of record keeping * Types of record keeping * Stock taking procedures * Warehousing documentation | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Maintain stored goods quality | * Introduction to goods quality * Preservation methods * Handling equipment * Goods handling methods * Pest control procedures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Secure stored goods | * Introduction to goods security * Advantages and disadvantage * Security threats and mitigation process * Security control measures * Goods control system | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |
| 1. Manage warehouse plant and equipment | * Introduction to warehouse plant and equipment * Properties of plant and equipment * Types of warehouse equipment * Uses of warehouse plant and equipment * Maintenance procedures | * Written tests * Observation * Oral questions * Third party report * Interviewing * Project and report writing |

**Suggested Methods of Delivery**

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

**Recommended Resources**

* Refuelers
* Tugs and tractors
* Ground power units
* Buses
* Container loader
* Transporters
* Air Start Unit (ASU)
* Potable water trucks
* Lavatory service vehicles
* Catering vehicle
* Belt loaders
* Passenger boarding steps/stairs
* Pushback tugs and tractors
* De/anti-icing vehicles