

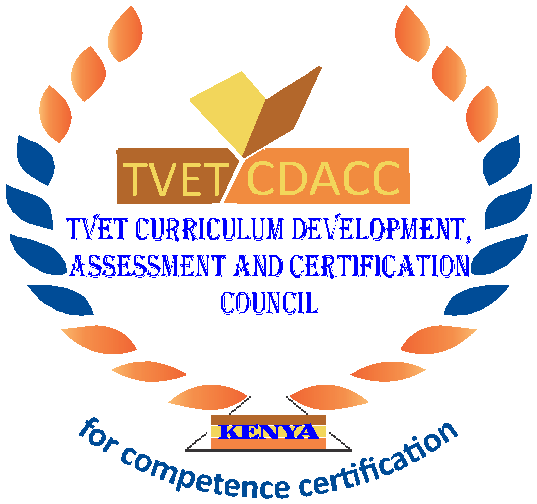
**REPUBLIC OF KENYA**

**NATIONAL OCCUPATIONAL STANDARDS**

**FOR**

**NUTRITION DIETETIC**

**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 of Kenya’s development blueprint, Vision 2030 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 of Kenya 2010 and this resulted to the formulation of the Policy Framework for Reforming Education and Training (Sessional Paper No. 4 of 2016). 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 these Occupational Standards were developed for developing a competency-based curriculum for nutrition dietetic. These Occupational Standards will also be the bases for assessment of an individual for competence certification.

It is my conviction that these Occupational Standards will play a great role towards development of competent human resource for the nutrition dietetic 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 and Sessional Paper No. 4 of 2016 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 labor force.

The TVET Curriculum Development, Assessment and Certification Council (TVET CDACC), in conjunction with nutrition dietetic Sector Skills Advisory Committee (SSAC) have developed these Occupational Standards for nutrition dietetic. These standards will be the bases for development of competency-based curriculum for nutrition dietetic

The occupational standards are designed and organized with clear performance criteria for each element of a unit of competency. These standards also outline the required knowledge and skills as well as evidence guide.

I am grateful to the Council Members, Council Secretariat, nutrition dietetic SSAC, expert workers and all those who participated in the development of these Occupational Standards.

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

**CHAIRMAN, TVET CDACC**

# ACKNOWLEDGMENT

These Occupational Standards were developed through combined effort of various stakeholders from private and public organizations. I am thankful to the management of these organizations for allowing their staff to participate in this course. I wish to acknowledge the invaluable contribution of industry players who provided inputs towards the development of these Standards.

I thank TVET Curriculum Development, Assessment and Certification Council (TVET CDACC) for providing guidance on the development of these Standards. My gratitude goes to nutrition dietetic Sector Skills Advisory Committee (SSAC) members for their contribution to the development of these Standards. I thank all the individuals and organizations who participated in the validation of these Standards.

My gratitude also goes to the Ministry of Industrialization which enabled the development of these Standards through the industry experts.

I acknowledge all other institutions which in one way or another contributed to the development of these Standards.

**CHAIRMAN**

**NUTRITION DIETETIC** **SECTOR SKILLS ADVISORY COMMITTEE**

# ACRONYMS

CDACC : Curriculum Development Assessment and Certification Council

BC : Basic Competency

CC : Core Competency

CO : Common Units

OSHA : Occupation Safety and Health Act

PPE : Personal Protective Equipment

SSAC : Sector Skills Advisory Committee

TVET : Technical and Vocational Education and Training

SOP : Standard operating procedures

NUD : Nutrition and Dietetics

MED : Medical

# OVERVIEW

The nutritional dietetic level six qualification consist of competencies that a person must achieve to examine client nutritional status, diagnose client nutritional requirement, develop nutrition care plan, plan and manage meals, manage maternal and child nutrition, apply nutrition in emergency, conduct nutrition education and counselling, provide diet therapy, apply principles of human nutrition and conduct nutrition assessment and surveillance

**Basic Units of competency**

|  |  |
| --- | --- |
| **Unit of Learning Code** | **Unit of Learning Title** |
| MED/OS/NUD/ BC/01/6/A | Demonstrate Communication skills |
| MED/ OS /NUD/ BC/02/6/A | Demonstrate Numeracy skills |
| MED/ OS /NUD/ BC/03/6/A | Demonstrate Digital literacy |
| MED/CU/NUD/ BC/04/6/A | Demonstrate Entrepreneurial skills |
| MED/ OS /NUD/ BC/05/6/A | Demonstrate Employability skills |
| MED/ OS /NUD/ BC/06/6/A | Demonstrate Environmental literacy |
| MED/ OS /NUD/BC/07/6/A | Demonstrate Occupational safety and health practices |

**Common units of learning**

|  |  |
| --- | --- |
| **Unit of Learning Code** | **Unit of Learning Title** |
| MED/OS/NUD/CC/01/6/A | Demonstrate the Knowledge of Human anatomy |
| MED/ OS /NUD/CC/02/6/A | Demonstrate the Knowledge of Medical physiology |
| MED/ OS /NUD/CC/03/6/A | Demonstrate the Knowledge of Microbiology |
| MED/CU/NUD/CC/04/6/A | Food processing, safety and hygiene |
| MED/ OS /NUD/CC/05/6/A | Apply Nutrition biochemistry |
| MED/ OS /NUD/CC/06/6/A | Conduct Research methods and statistics |

**Core units of learning**

|  |  |
| --- | --- |
| **Unit of Learning Code** | **Unit of Learning Title** |
| MED/ OS /NUD/CR/01/6/A | Apply Nutrition in emergency |
| MED/ OS /NUD/CR/02/6/A | Manage Nutrition in life cycle |
| MED/ OS /NUD/CR/03/6/A | Apply Principles of human nutrition |
| MED/ OS /NUD/CR/04/6/A | Conduct Nutrition care process |
| MED/ OS /NUD/CR/05/6/A | Plan and manage meals |
| MED/ OS /NUD/CR/06/6/A | Manage Maternal and child nutrition |
| MED/CU/NUD/CR/07/6/A | Conduct Nutrition education and counselling |
| MED/ OS /NUD/CR/08/6/A | Provide Diet therapy I |
| MED/ OS /NUD/CR/09/6/A | Provide Diet therapy II |
| MED/ OS /NUD/CR/10/6/A | Perform Dietetics operations |
| MED/ OS /NUD/CR/11/6/A | Apply Dietetics principles |
| MED/ OS /NUD/CR/12/6/A | Conduct Nutrition assessment and surveillance |

# BASIC UNITS OF COMPETENCY

# DEMONSTRATE COMMUNICATION SKILLS

**UNIT CODE:** MED/OS/NUD/BC/01/6/A

**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.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the key outcomes which make up workplace function | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the Range*** |
| 1. Meet communication needs of clients and colleagues | 1. Specific communication needs of clients and colleagues are identified and met based on workplace requirements 2. Different communication approaches are identified and applied according to clients’ needs 3. Conflict is identified and addressed as per the standards of the organization |
| 1. Develop communication strategies | * 1. Strategies for effective internal and external dissemination of information are developed as per organization’s requirements   2. Special communication needs are considered in developing strategies according workplace procedures   3. ***Communication strategies*** are analyzed, evaluated and revised based the workplace needs |
| 1. Establish and maintain communication pathways | * 1. Pathways of communication are established as per organization policy   2. Pathways are maintained and reviewed according to organization procedures |
| 1. Promote use of communication strategies | * 1. Information is provided to all areas of the organization as per strategy requirements   2. Effective communication techniques are articulated and modeled according work requirements   3. Personnel are given guidance about adapting communication strategies as per organization procedures |
| 1. Conduct interview | 1. A range of appropriate communication strategies are employed in ***interview situations*** based on the workplace requirements 2. Records of interviews are made and maintained in accordance with organizational procedures 3. Effective questioning, listening and nonverbal communication techniques are used as per needs |
| 1. Facilitate group discussion | 1. Mechanisms to enhance ***effective group interaction*** are identified and implemented according to workplace requirements 2. Strategies to encourage group participation are identified and used as per organizations’ procedures 3. Meeting’s objectives and agenda are set and followed based on workplace requirements 4. Relevant information is provided and feedback obtained according to set protocols 5. Evaluation of group communication strategies is undertaken in accordance with workplace guidelines 6. Specific communication needs of individuals are identified and addressed as per individual needs |
| 1. Represent the organization | 1. 7Relevant presentation are researched and presented based on internal or external communication forums requirements 2. Presentation is delivered in a clear and sequential manner as per the predetermined time 3. Presentation is made as per appropriate media 4. Difference views are respected based on workplace procedures 5. Written communication is done as per organizational standards 6. Inquiries are responded according to organizational standard |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Communication strategies may include but not limited to: | * Language switch * Comprehension check * Repetition * Asking confirmation * Paraphrase * Clarification request * Translation * Restructuring * Approximation * Generalization |
| 1. Effective group interaction may include but not limited to: | * Identifying and evaluating what is occurring within an interaction in a nonjudgmental way * Using active listening * Making decision about appropriate words, behavior * Putting together response which is culturally appropriate * Expressing an individual perspective * Expressing own philosophy, ideology and background and exploring impact with relevance to communication |
| 1. Situations may include but not limited to: | * Establishing rapport * Eliciting facts and information * Facilitating resolution of issues * Developing action plans * Diffusing potentially difficult situations |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Communication
* Active listening
* Interpretation
* Negotiation
* Writing

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Communication process
* Dynamics of groups
* Styles of group leadership
* Key elements of communications strategy

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical aspects of Competency | Assessment requires evidence that the candidate:   1. Developed communication strategies to meet the organization requirements and applied in the workplace 2. Established and maintained communication pathways for effective communication in the workplace 3. Used communication strategies involving exchanges of complex oral information |
| 1. Resource Implications | The following resources should be provided:   1. Access to relevant workplace or appropriately simulated environment where assessment can take place 2. Materials relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   1. Direct observation 2. Oral questioning 3. Written texts |
| 1. Context of Assessment | Competency may be assessed:   1. On-the-job 2. Off-the –job 3. During Industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# DEMONSTRATE NUMERACY SKILLS

**UNIT CODE:** MED/OS/NUD/BC/02/6/A

**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.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the key outcomes which make up workplace function. | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms*** ***are elaborated in the Range.*** |
| 1. Apply a wide range of mathematical calculations for work | * 1. Mathematical information embedded in a range of workplace tasks and texts is extracted as per workplace procedures.   2. Mathematical information is interpreted and comprehended as per job specifications   3. A range of mathematical and problem solving processes are selected and used as per job specification   4. Different forms of fractions, decimals and percentages are flexibly used as per SOPs   5. Calculation performed with positive and negative numbers as per SOPs   6. Numbers are expressed as powers and roots and are used in calculations as per SOPs   7. Calculations done using routine formulas as per SOPs   8. Estimation and assessment processes are used to check outcome as per workplace procedures   9. Mathematical language is used to discuss and explain the processes, results and implications of the task as per workplace procedures |
| 1. Use and apply ratios, rates and proportions for work | * 1. Information regarding ratios, rates and proportions extracted from a range of workplace tasks and texts as per SOPs   2. Mathematical information related to ratios, rate and proportions is analysed as per SOPs   3. Problem solving processes are used to undertake the task as per workplace procedures   4. Equivalent ratios and rates are simplified as per SOPs   5. Quantities are calculated using ratios, rates and proportions as per SOPS   6. Graphs, charts or tables are constructed to represent ratios, rates and proportions as per SOPs   7. The outcomes reviewed and checked as per job specifications   8. Information is record using mathematical language and symbols as per workplace procedures |
| 1. Estimate, measure and calculate measurement for work | * 1. Measurement information embedded in workplace texts and tasks are extracted and interpreted as per job specifications   2. Appropriate workplace measuring equipment are identified and selected as per job specifications   3. Accurate measurements are estimated and made as per SOPs   4. The area of ***2D shapes*** including compound shapes are calculated as per SOPs   5. The volume of 3D shapes is calculated using relevant formulas as per SOPs   6. Sides of right angled triangles are calculated using Pythagoras’ theorem as per SOPs   7. conversions are perform between units of measurement as per job specification   8. Problem solving processes are used to undertake the task as per workplace Procedures   9. The measurement outcomes are reviewed and checked as per workplace procedures   10. Information is recorded using mathematical language and symbols appropriate for the task as per workplace procedures |
| 1. Use detailed maps to plan travel routes for work | * 1. Different types of maps are identified and interpreted as per job requirements   2. Key features of maps are identified as per job requirements   3. Scales are identified and interpreted as per job requirements   4. Scales are applied to calculate actual distances   5. Positions or locations are determined using directional information as per job requirements   6. Routes are planned by determining directions and calculating distances, speeds and times as per job requirements   7. Information is gathered and identified and relevant factors related to planning a route checked as per job requirements   8. Relevant equipment is select and checked for accuracy and operational effectiveness as per job requirements   9. Task is planned and recorded using specialized mathematical language and symbols appropriate for the task as per job requirements |
| 1. Use geometry to draw 2D shapes and construct 3D shapes for work | * 1. A range of 2D shapes and 3D shapes and their uses in work contexts is identified as per job specifications   2. Features of 2D and 3D shapes are named and described as per job specifications   3. Types of angles in 2D and 3D shapes are identified as per job specifications   4. Angles are drawn, estimated and measured using geometric instruments as per job requirements   5. Angle properties of 2D shapes are named and identified as per SOPs   6. Angle properties are used to evaluate unknown angles in shapes as per SOPs   7. Properties of perpendicular and parallel lines are applied to shapes as per SOPs   8. Understanding and use of symmetry is demonstrated as per SOPs   9. Understanding and use of similarity is demonstrated as per SOPs   10. The workplace tasks and mathematical processes required are identified as per workplace procedures   11. 2D shapes is drawn for work as per job specification   12. 3D shapes is constructed for work as per job specification   13. The outcomes are reviewed and checked as per workplace procedures   14. Specialized mathematical language and symbols appropriate for the task are used as per SOPs |
| 1. Collect, organize, and interpret statistical data for work | * 1. Workplace issue requiring investigation are identified as per workplace procedures   2. Audience / population / sample unit is determined as per workplace procedures as per workplace procedures   3. Data to be collected is identified as per workplace procedures   4. Data collection method is selected as per workplace procedures   5. Appropriate statistical data is collected and organized as per SOPs   6. Data is illustrated in appropriate formats as per SOPs   7. The effectiveness of different types of graphs are compared as per SOPs   8. The summary statistics for collected data is calculated as per SOPs   9. The results / findings are interpreted as per SOPs   10. Data is checked to ensure that it meets the expected results and content as per workplace procedures   11. Information from the results including tables, graphs and summary statistics is extracted and interpreted as per workplace procedure   12. Mathematical language and symbols are used to report results of investigation as per workplace procedure |
| 1. Use routine formula and algebraic expressions for work | * 1. Understanding of informal and symbolic notation, representation and conventions of algebraic expressions is demonstrated as per SOPs   2. Simple algebraic expressions and equations are developed as per job specification   3. Operate on algebraic expressions as per job requirement   4. Algebraic expressions are simplified as per job requirement   5. Substitution into simple routine equations is done as per SOPs   6. Routine formulas used for work tasks are identified and comprehended as per SOPs   7. Routine formulas are evaluate by substitution as per SOPs   8. Routine formulas transposed as per SOPs   9. Appropriate formulas are identified and used for work related tasks as per workplace procedures   10. Outcomes are checked and result of calculation used as per workplace procedures |
| 1. Use common functions of a scientific calculator for work | * 1. Required numerical information to perform tasks is located as per job specification   2. The order of operations and function keys necessary to solve mathematical calculation are determined as per job specification   3. Function keys on a scientific calculator are identified and used as per SOPs   4. Estimations are referred to check reasonableness of problem solving process as per workplace procedures   5. Appropriate mathematical language, symbols and conventions are used to report results as per workplace procedures |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. 2D shapes may include but not limited may include but not limited to: | * Triangles * Square * Rectangle * Triangle |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Measuring
* Logical thinking
* Computing
* Drawing of graphs
* Applying mathematical formulas
* Analytical

**Required knowledge**

The individual needs to demonstrate knowledge of:

* Types of common shapes
* Differentiation between two dimensional shapes / objects
* Formulae for calculating area and volume
* Types and purpose of measuring instruments
* Units of measurement and abbreviations
* Fundamental operations (addition, subtraction, division, multiplication)
* Rounding techniques
* Types of fractions
* Different types of tables and graphs
* Meaning of graphs, such as increasing, decreasing, and constant value
* Preparation of basic data, tables & graphs

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical aspects of Competency | Assessment requires evidence that the candidate:   1. Developed communication strategies to meet the organization requirements and applied in the workplace 2. Established and maintained communication pathways for effective communication in the workplace 3. Used communication strategies involving exchanges of complex oral information |
| 1. Resource Implications | The following resources should be provided:   1. Access to relevant workplace or appropriately simulated environment where assessment can take place 2. Materials relevant to the proposed activity or tasks |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   1. Observation 2. Oral questioning 3. Written test 4. Portfolio of Evidence 5. Interview 6. Third party report |
| 1. Context of Assessment | Competency may be assessed:   1. On-the-job 2. Off-the –job 3. During Industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# DEMONSTRATE DIGITAL LITERACY

**UNIT CODE:** MED/OS/NUD/BC/03/6/A

**UNIT DESCRIPTION**

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

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the key outcomes which make up workplace function | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the Range*** |
| 1. Identify appropriate computer software and hardware | * 1. Concepts of ICT are determined in accordance with computer equipment   2. Classifications of computers are determined in accordance with manufacturers specification   3. Appropriate computer software is identified according to manufacturer’s specification   4. Appropriate computer hardware is identified according to manufacturer’s specification   5. Functions and commands of operating system are determined in accordance with manufacturer’s specification |
| 1. Apply security measures to data, hardware, software in automated environment | * 1. ***Data security and privacy are classified*** in accordance with the prevailing technology   2. ***Security threats*** reidentified ***and control measures*** are applied in accordance with laws governing protection of ICT   3. Computer threats and crimes are detected in accordance to Information Management security guidelines   4. Protection against computer crimes is undertaken in accordance with laws governing protection of ICT |
| 1. Apply computer software in solving tasks | * 1. ***Word processing concepts*** are applied in resolving workplace tasks, report writing and documentation as per the job requirements   2. ***Word processing utilities*** are applied in accordance with workplace procedures   3. Worksheet layout is prepared in accordance with work procedures   4. Worksheet is built and data manipulated in the worksheet in accordance with workplace procedures   5. Continuous data manipulated on worksheet is undertaken in accordance with work requirements   6. Database design and manipulation is undertaken in accordance with office procedures   7. Data sorting, indexing, storage, retrieval and security is provided in accordance with workplace procedures |
| 1. Apply internet and email in communication at workplace | * 1. Electronic mail addresses are opened and applied in workplace communication in accordance with office policy   2. Office internet functions are defined and executed in accordance with office procedures   3. ***Network configuration*** is determined in accordance with office operations procedures   4. Official World Wide Web is installed and managed according to workplace procedures |
| 1. Apply Desktop publishing in official assignments | * 1. Desktop publishing functions and tools are identified in accordance with manufactures specifications   2. Desktop publishing tools are developed in accordance with work requirements   3. Desktop publishing tools are applied in accordance with workplace requirements   4. Typeset work is enhanced in accordance with workplace standards |
| 1. Prepare presentation packages | * 1. Types of presentation packages are identified in accordance with office requirements   2. Slides are created and formulated in accordance with workplace procedures   3. Slides are edited and run-in accordance with work procedures   4. Slides and handouts are printed according to work requirements |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Appropriate computer hardware may include but not limited to: | Collection of physical parts of a computer system such as:   * Computer case, monitor, keyboard, and mouse * All the parts inside the computer case, such as the hard disk drive, motherboard and video card |
| 1. Data security and privacy may include but not limited to: | * Confidentiality of data * Cloud computing * Integrity -but-curious data surfing |
| 1. Security and control measures may include but not limited to: | * Counter measures against cyber terrorism * Risk reduction * Cyber threat issues * Risk management * Pass-wording |
| 1. Security threats may include but not limited to: | * Cyber terrorism * Hacking |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Analytical skills
* Interpretation
* Typing
* Communication
* Computing (applying fundamental operations such as addition, subtraction, division and multiplication)
* Using calculator
* Basic ICT skills

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Software concept
* Functions of computer software and hardware
* Data security and privacy
* Computer security threats and control measures
* Technology underlying cyber-attacks and networks
* Cyber terrorism
* Computer crimes
* Detection and protection of computer crimes
* Laws governing protection of ICT
* Word processing;
* Functions and concepts of word processing.
* Documents and tables creation and manipulations
* Mail merging
* Word processing utilities
* Spread sheets;
* Meaning, formulae, function and charts, uses and layout
* Data formulation, manipulation and application to cells
* Database;
* Database design, data manipulation, sorting, indexing, storage retrieval and security
* Desktop publishing;
* Designing and developing desktop publishing tools
* Manipulation of desktop publishing tools
* Enhancement of typeset work and printing documents
* Presentation Packages;
* Types of presentation Packages
* Creating, formulating, running, editing, printing and presenting slides and handouts
* Networking and Internet;
* Computer networking and internet.
* Electronic mail and world wide web
* Emerging trends and issues in ICT;
* Identify and integrate emerging trends and issues in ICT
* Challenges posed by emerging trends and issues

**EVIDENCE** **GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Identified and controlled security threats   2. Detected and protected computer crimes   3. Applied word processing in office tasks   4. Designed, prepared work sheet and applied data to the cells in accordance to workplace procedures   5. Opened electronic mail for office communication as per workplace procedure   6. Installed internet and World Wide Web for office tasks in accordance with office procedures   7. Integrated emerging issues in computer ICT applications   8. Applied laws governing protection of ICT |
| 1. Resource Implications | The following resources should be provided:   * 1. Access to relevant workplace where assessment can take place   2. Appropriately simulated environment where assessment can take place |
| 1. Methods of Assessment | Competency may be assessed through:   * 1. Observation   2. Oral questioning   3. Written test   4. Portfolio of Evidence   5. Interview   6. Third party report |
| 1. Context of Assessment | Competency may be assessed:   1. On-the-job 2. Off-the –job 3. During Industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

**DEMONSTRATE ENTREPRENEURIAL SKILLS**

**UNIT CODE :** MED/OS/NUD/BC/04/6/A

**UNIT DESCRIPTION**

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

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT** | **PERFORMANCE CRITERIA** |
| 1. Demonstrate understanding of an Entrepreneur | 1. Entrepreneurs and Business persons are distinguished as per principles of entrepreneurship 2. ***Types of entrepreneurs*** are identified as per principles of entrepreneurship 3. Ways of becoming an Entrepreneur are identified as per principles of Entrepreneurship 4. ***Characteristics of Entrepreneurs*** are identified as per principles of Entrepreneurship 5. Factors affecting Entrepreneurship development are explored as per principles of Entrepreneurship |
| 1. Demonstrate understanding of Entrepreneurship and self-employment | 1. Entrepreneurship and self-employment are distinguished as per principles of entrepreneurship 2. Importance of self-employment is analysed based on business procedures and strategies 3. ***Requirements for entry into self-employment*** are identified according to business procedures and strategies 4. Role of an Entrepreneur in business is determined according to business procedures and strategies 5. Contributions of Entrepreneurs to National development are identified as per business procedures and strategies 6. Entrepreneurship culture in Kenya is explored as per business procedures and strategies 7. Born or made Entrepreneurs are distinguished as per entrepreneurial traits |
| 1. Identify Entrepreneurship opportunities | 1. Sources of business ideas are identified as per business procedures and strategies 2. Business ideas and opportunities are generated as per business procedures and strategies 3. Business life cycle is analysed as per business procedures and strategies 4. Legal aspects of business are identified as per procedures and strategies 5. Product demand is assessed as per market strategies 6. Types of ***business environment*** are identified and evaluated as per business procedures 7. Factors to consider when evaluating business environment are explored based on business procedure and strategies 8. Technology in business is incorporated as per best practice |
| 1. Create entrepreneurial awareness | 1. ***Forms of businesses*** are explored as per business procedures and strategies 2. Sources of business finance are identified as per business procedures and strategies 3. Factors in selecting source of business finance are identified as per business procedures and strategies 4. ***Governing policies*** on Small Scale Enterprises (SSEs) are determined as per business procedures and strategies 5. Problems of starting and operating SSEs are explored as per business procedures and strategies |
| 1. Apply entrepreneurial motivation | 1. ***Internal and external motivation*** factors are determined in accordance with motivational theories 2. Self-assessment is carried out as per entrepreneurial orientation 3. Effective communications are carried out in accordance with communication principles 4. Entrepreneurial motivation is applied as per motivational theories |
| 1. Develop innovative business strategies | 1. Business innovation strategies are determined in accordance with the organization strategies 2. Creativity in business development is demonstrated in accordance with business strategies 3. ***Innovative business strategies*** are developed as per business principles 4. Linkages with other entrepreneurs are created as per best practice 5. ICT is incorporated in business growth and development as per best practice |
| 1. Develop Business Plan | 1. Identified Business is described as per business procedures and strategies 2. Marketing plan is developed as per business plan format 3. Organizational/Management plan is prepared in accordance with business plan format 4. Production/operation plan in accordance with business plan format 5. Financial plan is prepared in accordance with the business plan format 6. Executive summary is prepared in accordance with business plan format 7. Business plan is presented as per best practice |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Types of entrepreneurs may include but not limited to: | * Innovators * Imitators * Craft * Opportunistic * Speculators |
| 1. Characteristics of Entrepreneurs may include but not limited to: | * Creative * Innovative * Planner * Risk taker * Networker * Confident * Flexible * Persistent * Patient * Independent * Future oriented * Goal oriented |
| 1. Requirements for entry into self-employment may include but not limited to | * Technical skills * Management skills * Entrepreneurial skills * Resources * Infrastructure |
| 1. Internal and external motivation may include but not limited to: | * Interest * Passion * Freedom * Prestige * Rewards * Punishment * Enabling environment * Government policies |
| 1. Business environment may include but not limited to: | * External * Internal * Intermediate |
| 1. Forms of businesses may include but not limited to: | * Sole proprietorship * Partnership * Limited companies * Cooperatives |
| 1. Governing policies may include but not limited to: | * Increasing scope for finance * Promoting cooperation between entrepreneurs and private sector * Reducing regulatory burden on entrepreneurs * Developing IT tools for entrepreneurs |
| 1. Innovative business strategies may include but not limited to: | * New products * New methods of production * New markets * New sources of supplies * Change in industrialization |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Analytical
* Management
* Problem-solving
* Root-cause analysis
* Communication

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Decision making
* Business communication
* Change management
* Competition
* Risk
* Net working
* Time management
* Leadership
* Factors affecting entrepreneurship development
* Principles of Entrepreneurship
* Features and benefits of common operational practices, e. g., continuous improvement (kaizen), waste elimination,
* Conflict resolution
* Health, safety and environment (HSE) principles and requirements
* Customer care strategies
* Basic financial management
* Business strategic planning
* Impact of change on individuals, groups and industries
* Government and regulatory processes
* Local and international market trends
* Product promotion strategies
* Market and feasibility studies
* Government and regulatory processes
* Local and international business environment
* Relevant developments in other industries
* Regional/ County business expansion strategies

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | 1. Assessment requires evidence that the candidate: 2. Distinguished entrepreneurs and businesspersons correctly 3. Identified ways of becoming an entrepreneur appropriately 4. Explored factors affecting entrepreneurship development appropriately 5. Analysed importance of self-employment accurately 6. Identified requirements for entry into self-employment correctly 7. Identified sources of business ideas correctly 8. GeneratedBusiness ideas and opportunities correctly 9. Analysed business life cycle accurately 10. Identified legal aspects of business correctly 11. Assessed product demand accurately 12. Determined Internal and external motivation factors appropriately 13. Carried out communications effectively 14. Identified sources of business finance correctly 15. Determined Governing policy on small scale enterprise appropriately 16. Explored problems of starting and operating SSEs effectively 17. Developed Marketing, Organizational/Management, Production/Operation and Financial plans correctly 18. Prepared executive summary correctly 19. Determined business innovative strategies appropriately 20. Presented business plan effectively |
| 1. Resource Implications | The following resources should be provided:   1. Access to relevant workplace where assessment can take place 2. Appropriately simulated environment where assessment can take place |
| 1. Methods of Assessment | 1. Written tests 2. Oral questions 3. Third party report 4. Interviews 5. Portfolio of Evidence |
| 1. Context of Assessment | Competency may be assessed   1. On-the-job 2. Off-the –job 3. During Industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# DEMONSTRATE EMPLOYABILITY SKILLS

**UNIT CODE:** MED/OS/NUD/BC/05/6/A

**UNIT DESCRIPTON**

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.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the key outcomes which make up workplace function. | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the Range*** |
| 1. Conduct self-management | 1. Personal vision, mission and goals are formulated based on potential and in relation to organization objectives 2. Emotional intelligence is demonstrated as per workplace requirements. 3. Individual performance is evaluated and monitored according to the agreed targets. 4. Assertiveness is developed and maintained based on the requirements of the job. 5. Accountability and responsibility for own actions are demonstrated based on workplace instructions. 6. Self-esteem and a positive self-image are developed and maintained based on values. 7. Time management, attendance and punctuality are observed as per the organization policy. 8. Goals are managed as per the organization’s objective 9. Self-strengths and weaknesses are identified based on personal objectives |
| 1. Demonstrate interpersonal communication | 1. Writing skills are demonstrated as per communication policy 2. Negotiation and persuasion skills are demonstrated as per communication policy 3. Internal and external stakeholders’ needs are identified and interpreted as per the communication policy 4. Communication networks are established based on workplace policy 5. Information is shared as per communication policy |
| 1. Demonstrate critical safe work habits | * 1. Stress is managed in accordance with workplace policy.   2. Punctuality and time consciousness is demonstrated in line with workplace policy.   3. Personal objectives are integrated with organization goals based on organization’s strategic plan.   4. ***Resources*** are utilized in accordance with workplace policy.   5. Work priorities are set in accordance to workplace goals and objectives.   6. Leisure time is recognized and utilized in line with personal objectives.   7. ***Drugs and substances of abuse*** are identified and avoided based on workplace policy.   8. HIV and AIDS prevention awareness is demonstrated in line with workplace policy.   9. Safety consciousness is demonstrated in the workplace based on organization safety policy.   10. ***Emerging issues*** are identified and dealt with in accordance with organization policy. |
| 1. Lead a workplace team | 1. Performance targets for the ***team*** are set based on organization’s objectives 2. Duties are assigned in accordance with the organization policy. 3. ***Forms of communication*** in a team are established according to organization’s policy. 4. Team performance is evaluated based on set targets as per workplace policy. 5. Conflicts are resolved between team members in line with organization policy. 6. Gender related issues are identified and mainstreamed in accordance workplace policy. 7. Human rights and fundamental freedoms are identified and respected as Constitution of Kenya 2010. 8. Healthy relationships are developed and maintained in line with workplace. |
| 1. Plan and organize work | 1. Work plans are prepared based on activities and budget. 2. Assigned tasks are interpreted and expectations identified as per the workplace instructions. 3. Task occupational safety and health requirements are identified and observed regulations. 4. Work resources are identified, mobilized, allocated and utilized based on organization work plans. 5. Work activities are monitored and evaluated in line with work plans and workplace policy. 6. Work plans are reviewed based on target and available resources. |
| 1. Maintain professional growth and development | * 1. Personal training needs are identified and assessed in line with the requirements of the job.   2. ***Training and career opportunities*** are identified and utilized based on job requirements.   3. Resources for training are mobilized and allocated based organizations and individual skills needs.   4. Licensees and certifications relevant to job and career are obtained and renewed as per policy.   5. Work priorities and personal commitments are balanced and managed based on requirements of the job and personal objectives.   6. Recognitions are sought as proof of career advancement in line with professional requirements. |
| 1. Demonstrate workplace learning | * 1. Learning opportunities are sought and managed based on job requirement and organization policy.   2. Improvement in performance is demonstrated based on courses attended.   3. Application of learning is demonstrated in both technical and non-technical aspects based on requirements of the job   4. Time and effort is invested in learning new skills based on job requirements   5. Initiative is taken to create more effective and efficient processes and procedures in line with workplace policy.   6. New systems are developed and maintained in accordance with the requirements of the job.   7. Awareness of personal role in workplace ***innovation*** is demonstrated based on requirements of the job. |
| 1. Demonstrate problem solving skills | * 1. Creative, innovative and practical solutions are developed based on the problem   2. Independence and initiative in identifying and solving problems is demonstrated based on requirements of the job.   3. Team problems are solved as per the workplace guidelines   4. Problem solving strategies are applied as per the workplace guidelines   5. Problems are analyzed and assumptions tested as per the context of data and circumstances |
| 1. Manage ethical performance | * 1. Policies and guidelines are observed as per the workplace requirements   2. Self-worth and professionalism is exercised in line with personal goals and organizational policies   3. Code of conduct is observed as per the workplace requirements   4. Integrity is demonstrated as per legal requirement |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Drug and substance abuse may include but not limited to: | Commonly abused   * Alcohol * Tobacco * Miraa * Over-the-counter drugs * Cocaine * Bhang * Glue |
| 1. Feedback may include but not limited to: | * Verbal * Written * Informal * Formal |
| 1. Relationships may include but not limited to: | * Man/Woman * Trainer/trainee * Employee/employer * Client/service provider * Husband/wife * Boy/girl * Parent/child * Sibling relationships |
| 1. Forms of communication may include but not limited to: | * Written * Visual * Verbal * Non verbal * Formal and informal |
| 1. Team may include but not limited to: | * Small work group * Staff in a section/department * Inter-agency group |
| 1. Personal growth may include but not limited to: | * Growth in the job * Career mobility * Gains and exposure the job gives * Net workings * Benefits that accrue to the individual as a result of noteworthy performance |
| 1. Personal objectives may include but not limited to: | * Long term * Short term * Broad * Specific |
| 1. Trainings and career opportunities may includes but not limited to | * Participation in training programs * Serving as Resource Persons in conferences and workshops |
| 1. Resource may include may but not limited to: | * Human * Financial * Technology |
| 1. Innovation may include but not limited to: | * New ideas * Original ideas * Different ideas * Methods/procedures * Processes * New tools |
| 1. Emerging issues may include but not limited to: | * Terrorism * Social media * National cohesion * Open offices |
| 1. Range of media for learning may include but not limited to: | * Mentoring * peer support and networking * IT and courses |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Interpersonal
* Communication
* Critical thinking
* Organizational
* Negotiation
* Monitoring
* Evaluation
* Record keeping
* Problem solving
* Decision Making
* Resource utilization
* Resource mobilization

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Work values and ethics
* Company policies
* Company operations, procedures and standards
* Occupational Health and safety procedures
* Fundamental rights at work
* Workplace communication
* Concept of time
* Time management
* Decision making
* Types of resources
* Work planning
* Organizing work
* Monitoring and evaluation
* Record keeping
* Gender mainstreaming
* HIV and AIDS
* Drug and substance abuse
* Professional growth and development
* Technology in the workplace
* Innovation
* Emerging issues

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical aspects of Competency | Assessment requires evidence that the candidate:   * 1. Conducted self-management   2. Demonstrated interpersonal communication   3. Demonstrated critical safe work habits   4. Demonstrated the ability to lead a workplace team   5. Planned and organized work   6. Maintained professional growth and development   7. Demonstrated workplace learning   8. Demonstrated problem solving skills   9. Demonstrated the ability to manage performance ethically |
| 1. Resource Implications | The following resources should be provided:   1. Access to relevant workplace where assessment can take place 2. Appropriately simulated environment where assessment can take place |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   1. Observation 2. Oral questioning 3. Written test 4. Portfolio of Evidence 5. Interview 6. Third party report |
| 1. Context of Assessment | Competency may be assessed:   1. On-the-job 2. Off-the –job 3. During Industrial attachment |
| 1. Guidance information for assessment | | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# DEMONSTRATE ENVIRONMENTAL LITERACY

**UNIT CODE:** MED/OS/NUD/BC/06/6/A

**UNIT DESCRIPTION**

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

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the key outcomes which make up workplace function. | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the Range*** |
| 1. Control environmental hazard | 1. Storage methods for environmentally hazardous materials are strictly followed according to environmental regulations and OSHS. 2. Disposal methods of hazardous wastes are followed according to environmental regulations and OSHS. 3. ***PPE*** is used according to OSHS. |
| 1. Control environmental Pollution | * 1. Environmental pollution ***control measures*** are implemented in accordance with international protocols.   2. Procedures for solid waste management are observed according Environmental Management and Coordination Act 1999   3. Methods for minimizing noise pollution is complied with based on Noise and Excessive Vibration Pollution and Control Regulations, 2009 |
| 1. Demonstrate sustainable resource use | * 1. Methods for minimizing wastage are complied with based on organizational waste management guide   2. Waste management procedures are employed following principles of 3Rs (Reduce, Reuse, Recycle)   3. Methods for economizing and reducing resource consumption are practiced as per the Constitution of Kenya 2010 Article 69 . |
| 1. Evaluate current practices in relation to resource usage | * 1. Information on resource efficiency systems and procedures are collected and provided as per work groups/sector   2. Current resource usage is measured and recorded as per work group   3. Current purchasing strategies are analyzed and recorded according to industry procedures.   4. Current work processes to access information and data is analyzed following enterprise protocol. |
| 1. Identify environmental legislations/conventions for environmental concerns | 1. Environmental legislations/conventions and local ordinances are identified according to the different environmental aspects/impact 2. Industrial standard/environmental practices are described according to the different environmental concerns |
| 1. Implement specific environmental programs | 1. Programs/Activities are identified according to organizations policies and guidelines. 2. Individual roles/responsibilities are determined and performed based on the activities identified. 3. Problems/constraints encountered are resolved in accordance with organizations’ policies and guidelines 4. Stakeholders are consulted based on company guidelines |
| 1. Monitor activities on Environmental protection/Programs | 1. Activities are periodically monitored and Evaluated according to the objectives of the environmental program 2. Feedback from stakeholders are gathered and considered in Proposing enhancements to the program based on consultations 3. Data gathered are analyzed based on Evaluation requirements 4. Recommendations are submitted based on the findings 5. Management support systems are set/established to sustain and enhance the program 6. Environmental incidents are monitored and reported to 7. concerned/proper authorities |
| 1. Analyze resource use | 1. All resource consuming processes are Identified as per the organizational work plan 2. Quantity and nature of resource consumed is determined based on processes 3. Resource flow is analyzed as per different parts of the process. 4. Wastes are classified according to NEMA regulations on waste management. |
| 1. Develop resource Conservation plans | 9.1. Efficiency of use/conversion of resources is determined according to industry protocol.  9.2. Causes of low efficiency of use of resources are Determined based on industry protocol.  9.3. Plans for increasing the efficiency of resource use are developed based on findings. |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. PPE may include but not limited to | * + Mask   + Gloves   + Goggles   + Safety hat   + Overall * Hearing protector |
| 1. Control measures may include but not limited to | * Methods for minimizing or stopping spread and ingestion of airborne particles * Methods for minimizing or stopping spread and ingestion of gases and fumes * Methods for minimizing or stopping spread and ingestion of liquid wastes |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Measuring
* Recording
* Analytical
* Monitoring
* Communication
* Writing

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* PPEs
* Environmental regulations
* OSHS
* Pollution
* Waste management
* Principle of 3Rs
* Types of resources
* Techniques in measuring current usage of resources
* Environmental hazards
* Regulatory requirements

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Controlled environmental hazard   2. Controlled environmental pollution   3. Demonstrated sustainable resource use   4. Evaluated current practices in relation to resource usage   5. Demonstrated knowledge of environmental legislations and local ordinances according to the different environmental issues /concerns.   6. Described industrial standard environmental practices according to the different environmental issues/concerns.   7. Resolved problems/ constraints encountered based on management standard procedures   8. Implemented and monitored environmental practices on a periodic basis as per company guidelines   9. Recommended solutions for the improvement of the program   10. Monitored and reported to proper authorities any environmental incidents |
| 1. Resource Implications | The following resources should be provided:   * 1. Workplace with storage facilities   2. Tools, materials and equipment relevant to the tasks (e.g. Cleaning tools, cleaning materials, trash bags)   3. PPE, manuals and references   4. Legislation, policies, procedures, protocols and local ordinances relating to environmental protection   5. Case studies/scenarios relating to environmental Protection |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   * 1. Observation   2. Oral questioning   3. Written test   4. Portfolio of Evidence   5. Interview   6. Third party report |
| 1. Context of Assessment | Competency may be assessed   1. On-the-job 2. Off-the –job 3. During Industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# DEMONSTRATE OCCUPATIONAL SAFETY AND HEALTH PRACTICES

**UNIT CODE:** MED/OS/NUD/BC/07/6/A

**UNIT DESCRIPTION**

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

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the key outcomes which make up workplace function. | **PERFORMANCE CRITERIA**  These are assessable statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the Range*** |
| 1. Identify workplace hazards and risk | 1.1 ***Hazards*** in the workplace are identified ***based their indicators***  1.2 Risks and hazards are evaluated based on legal requirements.  1.3 ***OSH concerns*** raised by workers are addressed as per legal requirements. |
| 1. Control OSH hazards | 2.1 Hazard prevention ***and control measures*** are implemented as per legal requirement.  2.2 Risk assessment is conductedand a risk matrix developed based on likely impact.  2.3 ***Contingency measures***, including ***emergency procedures*** during workplace ***incidents and emergencies*** are recognized and established in accordance with organization procedures. |
| 1. Implement OSH programs | 3.1 Company OSH program are identified, evaluated and reviewed based on legal requirements.  3.2 Company OSH programs are implemented as per legal requirements.  3.3 Workers are capacity built on OSH standards and procedures as per legal requirements  3.4 ***OSH-related records*** are maintained as per legal requirements. |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Hazards may include but not limited to: | * Physical hazards – impact, illumination, pressure, noise, * vibration, extreme temperature, radiation * Biological hazards- bacteria, viruses, plants, parasites, mites, molds, fungi, insects * Chemical hazards – dusts, fibers, mists, fumes, smoke, gasses, vapors * Ergonomics * Psychological factors – over exertion/ excessive force,   awkward/static positions, fatigue, direct pressure,   * varying metabolic cycles * Physiological factors – monotony, personal relationship, work out cycle * Safety hazards (unsafe workplace condition) –confined space, excavations, falling objects, gas leaks, electrical, poor storage of materials and waste, spillage, waste and debris * Unsafe workers’ act (Smoking in off-limited areas, Substance and alcohol abuse at work) |
| 1. Indicators may include but not limited to: | * Increased of incidents of accidents, injuries * Increased occurrence of sickness or health complaints/ symptoms * Common complaints of workers related to OSH * High absenteeism for work-related reasons |
| 1. OSH concerns may include but not limited to: | * Workers’ experience/observance on presence of work hazards * Unsafe/unhealthy administrative arrangements (prolonged work hours, no break time, constant overtime, scheduling of tasks) * Reasons for compliance/non-compliance to use of PPEs or other OSH procedures/policies/guidelines |
| 1. Safety gears /PPE (Personal Protective Equipment) may include but not limited to: | * 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 |
| 1. Appropriate risk controls   may include but not limited to: | * Appropriate risk controls in order of impact are as follows: * Eliminate the hazard altogether (i.e., get rid of the dangerous machine) * Isolate the hazard from anyone who could be harmed (i.e., keep the machine in a closed room and operate it remotely; barricade an unsafe area off) * Substitute the hazard with a safer alternative (i.e., replace the machine with a safer one) * Use administrative controls to reduce the risk (i.e., train workers how to use equipment safely; train workers about the risks of harassment; issue signage) * Use engineering controls to reduce the risk (i.e., attach guards to the machine to protect users) * Use personal protective equipment (i.e., wear * gloves and goggles when using the machine) |
| 1. Contingency measures may include but not limited to: | * Evacuation * Isolation * Decontamination * (Calling designed) emergency personnel |
| 1. Incidents and emergencies may include but not limited to: | * Chemical spills * Equipment/vehicle accidents * Explosion * Fire * Gas leak * Injury to personnel * Structural collapse * Toxic and/or flammable vapors emission. |
| 1. OSH-related Records may include but not limited to: | * Medical/Health records * Incident/accident reports * Sickness notifications/sick leave application * OSH-related trainings obtained |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Communication
* Interpersonal
* Presentation
* Risk assessment
* Evaluation
* Critical thinking
* Problem solving
* Negotiation

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* General OSH Principles
* Occupational hazards/risks recognition
* OSH organizations providing services on OSH evaluation and/or work environment measurements (WEM)
* National OSH regulations; company OSH policies and protocols
* Systematic gathering of OSH issues and concerns
* General OSH principles
* National OSH regulations
* Company OSH and recording protocols, procedures and policies/guidelines
* Training and/or counseling methodologies and strategies

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   1. Identified hazards in the workplace based their indicators 2. Evaluated workplace hazards based on legal requirements. 3. Addressed OSH concerns raised by workers as per legal requirements. 4. Implemented hazard prevention and control measures as per legal requirement. 5. Conducted risk assessment as per legal requirement. 6. Developed risk matrix based on likely impact. 7. Recognized and established contingency measures in accordance with organization procedures. 8. Identified, evaluated and reviewed company OSH program based on legal requirements. 9. Implemented company OSH programs as per legal requirements. 10. Capacity built workers on OSH standards and procedures as per legal requirements 11. Maintained OSH-related records as per legal requirements. |
| 1. Resource Implications | The following resources should be provided:   1. Access to relevant workplace where assessment can take place 2. Appropriately simulated environment where assessment can take place |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   1. Observation 2. Oral questioning 3. Written test 4. Portfolio of Evidence 5. Interview 6. Third party report |
| 1. Context of Assessment | Competency may be assessed:   1. On-the-job 2. Off-the –job 3. During Industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# COMMON UNITS OF COMPETENCY.

# DEMONSTRATE THE KNOWLEDGE OF HUMAN ANATOMY

**UNIT CODE:** MED/OS/PM/CC/01/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to establish human anatomy. It involves analyzing the scope of anatomy, identifying anatomical terminologies, demonstrating the knowledge of cell and cell division, identifying histological and cytological methods and demonstrating knowledge of types of tissues and their location.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms*** ***are elaborated in the Range*** |
| 1. Identify anatomical terminologies | 1. Relevant ***anatomical and physiological terminology*** identified as per the anatomical position. 2. Relevant anatomical and physiological terminology applied to daily tasks as per the workplace procedures |
| 1. Demonstrate the knowledge of cell and cell division | 1. Cell types identified as per the workplace procedures 2. Components of a human cell identified as per the workplace procedures 3. Processes of cell division outlined as per the SOP 4. The composition of cytoplasm described as per the workplace procedures 5. Type of cell division identified as per the SOPs |
| 1. Identify histological and cytological methods | 1. Direct observation performed based on workplace procedures 2. Histochemical methods identified based on the material available 3. Chemical methods identified based on the material available 4. Physical methods identified based on the material available 5. ***Staining methods*** identified as per workplace procedures 6. Immunohistochemical methods identified based on the material available 7. X-ray diffraction performed as per the workplace procedures |
| 1. Demonstrate knowledge of types of tissues and their location | 1. ***Tissue location*** outlined as per the workplace procedures 2. Embryonic tissues identified as per the tissue location 3. Types of tissues identified as per the tissue location |

**RANGE**

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

|  |  |
| --- | --- |
| Variables | Range  May include but not limited to: |
| 1. Anatomical and physiological terminology | * Proximal * Distal * Cranial * Anterior * Posterior |
| 1. Staining methods | * Hematoxylin and eosin * Uranyl acetate and lead citrate |
| 1. Tissue location | * Epithelial * Connective * Adipose * Bone * Nerve and muscle |
| 1. Types of cell division | * Mitosis * Meiosis |
| 1. Process of cell division | * Interphase * Prophase * Prometaphase * Anaphase telophase * Cytokinesis |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Organizing skills
* Analytical skills
* Negotiation skills
* Interpersonal skills
* Communication skills
* Evaluation skills
* Problem solving
* Critical thinking

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Basic anatomy
* Anatomical terminologies
* Scope of anatomy

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Identified relevant anatomical and physiological terminology as per the anatomical position.   2. Applied relevant anatomical and physiological terminology to daily tasks as per the workplace procedures   3. Identified cell types as per the workplace procedures   4. Identified components of a human cell as per the workplace procedures   5. Outlined processes of cell division as per the SOP   6. Described the composition of cytoplasm as per the workplace procedures   7. Performed direct observation based on workplace procedures   8. Identified histochemical methods based on the material available   9. Identified chemical methods based on the material available   10. Identified physical methods based on the material available   11. Identified Staining methods as per workplace procedures   12. Identified immunohistochemical methods based on the material available   13. Performed X-ray diffraction as per the workplace procedures   14. Outlined tissue location as per the workplace procedures   15. Identified embryonic tissues as per the tissue location   16. Classified tissues as per the tissue location |
| 1. Resource Implications | The following resources must be provided:   * 1. Functional Pharmaceutical technology system |
| 1. Methods of Assessment | Competency may be assessed through:   * 1. Written tests   2. Third party reports   3. Oral questioning   4. Interview   5. Observation |
| 1. Context of Assessment | Assessment could be conducted:   * On-the-job * Off-the–job * During industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with related units in the sector |

# DEMONSTRATE THE KNOWLEDGE OF MEDICAL PHYSIOLOGY

**UNIT CODE:** MED/OS/PM/CC/02/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to demonstrate the knowledge of medical physiology. It involves demonstrating the knowledge of physiologic principles, demonstrating the knowledge of human body systems, integumentary system.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms*** ***are elaborated in the Range*** |
| 1. Demonstrate the knowledge of physiologic principles | 1. The structure of the normal cell analyzed as per the cellular inclusions 2. Functions of ***cellular organelles*** identified as per the structure 3. Types of cell division described as per the cell type 4. Types of mammalian cells identified as per the cell type 5. The organization, size and composition of body fluids identified as per the site, composition and organization of the fluid. 6. ***Units of measurement*** of the physiochemical constituent in cells identified as per the concentration 7. ***Forces producing movement*** of substances between body fluid compartments identified as per the cell type 8. Maintenance and variations in membrane potentials analyzed as per the cell type 9. The buffering system of the body outlined as per the cell type |
| 1. Demonstrate the knowledge of the human body systems | 1. The ***components of the human body systems*** are identified as per the workplace procedures 2. Relevant functions of the body s systems identified as per the workplace procedures 3. Relevant principles of the body s systems to performance of therapy treatment applied as per the workplace procedures |
| 1. Demonstrate the knowledge of the integumentary system | 1. The ***components of the integumentary systems*** are identified as per the workplace procedures 2. Functions of the integumentary systems identified as per the components 3. Principles of the integumentary applied as per the workplace procedures |

**RANGE**

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

|  |  |
| --- | --- |
| Variables | Range  May include but not limited to: |
| 1. Cellular organelles | * Mitochondria * Endoplasmic reticulum * Nuclei * Cell membrane * Cytoplasm |
| 1. Units of measurement | * Moles * Equivalents * Osmoles |
| 1. Forces producing movement | * Diffusion * Donnan effect * Solvent drag * Osmosis * Filtration * Active transport * Exocytosis * Endocytosis |
| 1. Components of the human body systems | * Cardiovascular system * Respiratory system * Renal system * Musculoskeletal system * Reproductive system * Skin * Gastro intestinal * Central nervous system |
| 1. Components of the integumentary systems | * Skin * Hair * Nails * Exocrine glands |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Organizing skills
* Analytical skills
* Negotiation skills
* Interpersonal skills
* Communication skills
* Evaluation skills
* Problem solving
* Critical thinking

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* The role of physiology in the broad field of physical and biomedical sciences
* Normal functions of the body
* Pathological and physiological states

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Analyzed the structure of the normal cell as per the cellular inclusions   2. Identified functions of cellular organelles as per the structure   3. Described types of cell division as per the cell type   4. Identified types of mammalian cells as per the cell type   5. Identified the organization, size and composition of body fluids as per the site, composition and organization of the fluid.   6. Identified units of measurement of the physiochemical constituent in cells as per the concentration   7. Identified forces producing movement of substances between body fluid compartments as per the cell type   8. Analyzed maintenance and variations in membrane potentials as per the cell type   9. Outlined the buffering system of the body as per the cell type   10. Identified the components of the human body systems as per the workplace procedures   11. Identified relevant functions of the body s systems as per the workplace procedures   12. Applied relevant principles of the body s systems to performance of therapy treatment as per the workplace procedures   13. Identified the components of the integumentary systems as per the workplace procedures   14. Identified functions of the integumentary systems as per the components   15. Applied principles of the integumentary as per the workplace procedures |
| 1. Resource Implications | The following resources must be provided:   * 1. Functional Pharmaceutical technology system |
| 1. Methods of Assessment | Competency may be assessed through:   * 1. Written tests   2. Third party reports   3. Oral questioning   4. Interview   5. Observation |
| 1. Context of Assessment | Assessment could be conducted:   * On-the-job * Off-the–job * During industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with related units in the sector |

# DEMONSTRATE KNOWLEDGE OF FOOD MICROBIOLOGY TECHNIQUES

**UNIT CODE:** MED/OS/PM/CC/03/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to apply microbiological techniques. It involves demonstrating the knowledge of microorganisms in foods and food environments, physiology, genetics, biochemistry and behaviour of microorganisms, microbiology of food fermentation, microbiological aspects of food safety, methods of detection, identification and enumeration of food microorganisms.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms*** ***are elaborated in the Range*** |
| 1. Demonstrate the knowledge of microorganisms in food and food environment | 1. Terminologies in in food microbiology are identified and described as per resource materials 2. Basic types of food microorganism are identified and described as per resource materials 3. Roles of microorganisms in food safety and spoilage are identified and described as per resource materials 4. Use of microscope are applied as per workplace guidelines |
| 1. Demonstrate the knowledge of physiology, genetics, biochemistry and behaviour of food microorganisms | 1. Physiology, genetics and biochemistry of microorganisms are identified and described as per resource materials 2. Bacterial anatomy is described as per resource materials 3. Factors that influence growth and activity of food microorganism are identified and described as per resource materials 4. The growth pattern of a typical bacterial colony is described as per resource materials 5. The gram stain method and AFB test are demonstrated and described as per resource materials |
| 1. Demonstrate the knowledge on microbiology of food fermentation | 1. Terminologies in food fermentation and its importance are identified and described as per resource materials 2. Microorganisms in fermentation process are identified and described as per resource materials 3. Fermentation processes in different types of food are identified and described as per resource materials |
| 1. Demonstrate the knowledge of microbiological aspects of food safety | 1. Terminologies in microbial aspects in food safety are identified and described as per resource materials 2. Microbial aspects of food safety during production, processing and labelling, food handling distribution and storage, food preparation and use are identified and described as per resource materials |
| 1. Demonstrate the knowledge on methods of detection, identification and enumeration of food microorganism | 1. Terminologies in basic laboratory equipment and materials are identified and described as per resource materials 2. Methods of detection, identification and enumeration of microorganisms are identified and described as per resource materials |

**RANGE**

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

|  |  |
| --- | --- |
| Variables | Range  May include but not limited to: |
| 1. Types of immunity | * Innate * Adaptive |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Organizing skills
* Analytical skills
* Negotiation skills
* Interpersonal skills
* Communication skills
* Evaluation skills
* Problem solving
* Critical thinking

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* The role of microbiology in pharmacy and related biomedical sciences
* The nature and appropriate environmental conditions for survival of microorganisms
* Diseases and physiological disorders associated with microorganisms
* Appropriate treatment and management of the various diseases caused by micro organisms
* Various laboratory tests in the diagnosis of diseases

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical aspects | The assessment requires evidence that the candidate:  1. Demonstrated the knowledge of microorganisms in food and food environment  2. Demonstrated the knowledge of physiology, genetics, biochemistry and behaviour of food microorganisms  3. Demonstrated the knowledge on microbiology of food fermentation  4. Demonstrated the knowledge of microbiological aspects of food safety  5. Demonstrated the knowledge on methods of detection, identification and enumeration of food microorganism |
| 1. Resource Implications | The following resources must be provided:   * 1. Functional Pharmaceutical technology system |
| 1. Methods of Assessment | Competency may be assessed through:   * 1. Written tests   2. Third party reports   3. Oral questioning   4. Interview   5. Observation |
| 1. Context of Assessment | Assessment could be conducted:   * On-the-job * Off-the–job * During industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with related units in the sector |

# FOOD PROCESSING, SAFETY AND HYGIENE

**UNIT CODE:** MED/CU/NUD/CC/04/6/A

**Unit Description**

This unit specifies the competencies required for food processing, safety and hygiene. It is to include principles in food processing, methods of food preservation, food quality and safety-HACCP and hygiene practices in food handling.

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

| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms*** ***are elaborated in the Range*** |
| --- | --- |
| * 1. Identify and describe terminologies in food processing, safety and hygiene | 1. Terminologies in food processing, preservation and food safety are identified and described as per resource materials 2. Aims and importance of food processing, preservation and safety are identified and described as per resource materials |
| * 1. Describe principles in food processing, preservation and safety | * 1. Principles in food are identified and described as per resource materials   2. Methods of food processing and preservation are identified and described as per resource materials   3. Effects of food processing and preservation techniques on food storage sensory and nutrition properties of food are identified and described as per resource materials   4. Traditional and modern methods in food processing and preservation for different food categories are identified and described as per resource materials |
| * 1. Demonstrate knowledge in food quality, safety and hygiene | * 1. Quality control of food and food safety during processing are identified and described as per resource materials   2. HACCP is described and demonstrated as per resource materials, organizational guidelines, policies and guidelines   3. Food hygiene are identified and described as per resource materials |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. OSH-related Records may include but not limited to: | * Medical/Health records * Incident/accident reports * Sickness notifications/sick leave application * OSH-related trainings obtained |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Communication
* Interpersonal
* Presentation
* Risk assessment
* Evaluation
* Critical thinking
* Problem solving
* Negotiation

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* General OSH Principles
* Occupational hazards/risks recognition
* OSH organizations providing services on OSH evaluation and/or work environment measurements (WEM)
* National OSH regulations; company OSH policies and protocols
* Systematic gathering of OSH issues and concerns
* General OSH principles
* National OSH regulations
* Company OSH and recording protocols, procedures and policies/guidelines
* Training and/or counseling methodologies and strategies

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:  Demonstrated the ability to identify and describe terminologies in food processing, safety and hygiene  Demonstrated the ability to describe principles in food processing, preservation and safety  Demonstrated knowledge in food quality, safety and hygiene |
| 1. Resource Implications | The following resources should be provided:   1. Access to relevant workplace where assessment can take place 2. Appropriately simulated environment where assessment can take place |
| 1. Methods of Assessment | Competency in this unit may be assessed through:   1. Observation 2. Oral questioning 3. Written test 4. Portfolio of Evidence 5. Interview 6. Third party report |
| 1. Context of Assessment | Competency may be assessed:   1. On-the-job 2. Off-the –job 3. During Industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. |

# APPLY NUTRITION BIOCHEMICAL TECHNIQUES

**UNIT CODE:** MED/OS/PM/CC/05/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to apply biochemical techniques. It involves demonstrating the knowledge of macromolecules and their metabolism, enzymes, molecular genetics and biochemistry of macronutrients

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms*** ***are elaborated in the Range*** |
| 1. Demonstrate the knowledge of macromolecules and their metabolism | 1. ***Types of macro molecules*** identified as per the workplace procedures 2. The hierarchy of molecular organization of cells is illustrated as per the workplace procedures 3. The structure of the cell and how it is organized to conduct its characteristic chemical functions is outlined based on workplace procedures |
| 1. Demonstrate the knowledge of enzymes and hormones | 1. The structure of enzymes outlined as per the workplace procedures 2. The relationship among holoenzymes, apoenzymes and cofactors outlined as per the workplace procedures 3. The general mechanisms by which enzymes catalyze reactions outlined as per the type of macro molecule 4. Enzymes classified as per the ***I.B.U.N*** 5. Properties of enzymes identified as per the workplace procedures 6. Isoenzymes and zymogens discussed based on workplace procedures 7. Enzymes related to their chemical applications based on workplace procedures 8. Functions of hormones, their secretion modes and endocrine disorders are identified and described as per resource materials |
| 1. Demonstrate the knowledge of molecular genetics | 1. Nucleic acids identified and classified as per the workplace procedures 2. Heterocyclic bases present in nucleic acid identified as per the molecular structure 3. Pentose sugars in nucleic acid identified as per the molecular structure 4. Structures and functions of DNA and RNA are described as per resource materials 5. The process of DNA replication described as per workplace procedures 6. The process of DNA transcription described workplace procedures 7. Protein synthesis process described on workplace procedures 8. Point mutation described on workplace procedures 9. Chromosomes and chromosome pathology outlined on workplace procedures |
| 1. Demonstrate the knowledge of biochemistry of macronutrient | 1. Terminologies in biochemistry of macronutrients are identified and described as per resource materials 2. Biochemistry of carbohydrates is described as per resource materials 3. Biochemistry of proteins is described as per resource materials 4. Biochemistry of lipids is described as per resource materials |

**RANGE**

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

|  |  |
| --- | --- |
| Variables | Range  May include but not limited to: |
| 1. I.B.U.N | * International union of biochemistry nomenclature |
| 1. Types of macro molecules | * Carbohydrates * Proteins * Lipids |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Organizing skills
* Analytical skills
* Negotiation skills
* Interpersonal skills
* Communication skills
* Evaluation skills
* Problem solving
* Critical thinking

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* The basic structure of a living cell and its organization
* The structural elements of carbohydrates, proteins, lipids and their interactions with other small molecules
* The nature of enzymes
* The process of enzyme catalysis
* Biochemical reactions which micro and macro molecules undergo to maintain homeostasis, growth and maturation
* The structural elements of chromosomes and their functions

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   * 1. Identified types of macro molecules as per the workplace procedures   2. Illustrated the hierarchy of molecular organization of cells is as per the workplace procedures   3. Outlined the structure of the cell and how it is organized to conduct its characteristic chemical functions based on workplace procedures   4. Outlined the structure of enzymes as per the workplace procedures   5. Outlined the relationship among holoenzymes, apoenzymes and cofactors as per the workplace procedures   6. Outlined the general mechanisms by which enzymes catalyze reactions as per the type of macro molecule   7. Classified enzymes as per the I.B.U.N   8. Identified properties of enzymes as per the workplace procedures   9. Discussed isoenzymes and zymogens based on workplace procedures   10. Related enzymes to their chemical applications based on workplace procedures   11. Identified and classified nucleic acids as per the workplace procedures   12. Identified heterocyclic bases present in nucleic acid as per the molecular structure   13. Identified pentose sugars in nucleic acid as per the molecular structure   14. Described the process of DNA replication as per workplace procedures   15. Described the process of DNA transcription workplace procedures   16. Described protein synthesis process on workplace procedures   17. Described point mutation on workplace procedures   18. Outlined chromosomes and chromosome pathology on workplace procedures   19. Described the relationship between natural laws and common physical phenomena as per the principles of physical chemistry   20. Applied physical principles of pharmaceutical procedures as per workplace procedures   21. Identified the role of physical principles in the dynamic process in the human body based on workplace procedures |
| 1. Resource Implications | The following resources must be provided:   * 1. Functional Pharmaceutical technology system |
| 1. Methods of Assessment | Competency may be assessed through:   * 1. Written tests   2. Third party reports   3. Oral questioning   4. Interview   5. Observation |
| 1. Context of Assessment | Assessment could be conducted:   1. On-the-job 2. Off-the–job 3. During industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with related units in the sector |

# CONDUCT RESEARCH METHODS AND STATISTICS

**UNIT CODE:** MED/OS/NUD/CC/06/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to conduct research in nutrition pharmacy. It involves proposal writing: identifying a research problem upon literature review, formulating objectives, hypothesis and or research questions, conducting literature review, developing research methodology, conducting data collection, conducting data analysis and presentation and preparing research report. Statistical methods: types of data, descriptive statistics, inferential statistics, confidence intervals

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms*** ***are elaborated in the Range*** |
| 1. Identify terminologies in research methods and statistics | 1. Terminologies in research methods and statistics are identified and described as per resource materials 2. Importance of research, Types of research, Sources of data for research are identified and described as per resource materials 3. Statistical methods are identified and described as per resource materials |
| 1. Develop a research proposal | 1. Identification of research problem/title is done as per literature search 2. Components of research proposal are identified and described as per resource materials and organizational guidelines |
| 1. Conduct data collection | 1. Data is collected as per the proposal developed and organizational guidelines |
| 1. Conduct data analysis and presentation | * 1. Data is analyzed as per statistical method outlined in the proposal and organizational guidelines   2. Research findings are presented as per proposal and resource materials |
| 1. Preparation of reports and dissemination | 1. Scientific writing of research document is done as per the resource materials and organizational guidelines 2. Power point presentations are done as per resource materials organizational guidelines, peer review of the research and publications are done as per journal guidelines |

**RANGE**

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

|  |  |
| --- | --- |
| Variables | Range |
| 1. Sources of information | * Primary * Secondary |
| 1. Types of research design | * Descriptive * Experimental * Case study * Correlational |
| 1. Sampling techniques | * Probability * Non-probability |
| 1. Data analysis techniques | * Hypothesis test |
| 1. Sources of data | * Primary * Secondary |
| 1. Methods of data collection | * Questionnaire * Interviewing * Observation |

**REQUIRED SKILLS AND KNOWLEDGE**

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

**Required Skills**

The individual needs to demonstrate the following skills:

* Organizing skills
* Analytical skills
* Negotiation skills
* Interpersonal skills
* Communication skills
* Evaluation skills
* Problem solving
* Critical thinking
* Presentation skills

**Required Knowledge**

The individual needs to demonstrate knowledge of:

* Research methods
* Technical report writing
* Communication skills
* Presentation skills

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   1. Identified Research problem as per requirements of industry 2. Defined the scope of the study as per the research problem 3. Formulated a research title-based objective. 4. Identified Research objectives based on the title. 5. Established Research questions based on the objectives. 6. Identified Sources of information based on research objectives. 7. Reviewed and cited Relevant information is based on area of study 8. Identified the locality/site of the study based on the research objective. 9. Identified Materials, methods and procedures based on the research problem. 10. Prepared a schedule of the study based on timeframe of the study. 11. Prepared Research budget based on the scope of the research 12. Identified and selected Types of research design are based on the research objectives. 13. Data analysis techniques are selected and established research objective and research design. 14. Determined Validity and reliability of research instruments is as per the research design. 15. Developed a research proposal 16. Determined research design 17. Determined Data Collection Methods and data analysis Procedures 18. Identified Data collection tools based on the research design 19. Collected Data is in line with research objectives. 20. Analyzed and interpreted Data is in line with research objectives. 21. Processed and presented Data as per relevant methodology 22. Identified Research report format as per relevant standards 23. Prepared Research report as per standards 24. Determined and presented Research findings as per work place procedures |
| 1. Resource implications | The following resources must be provided:   * 1. Functional bee facilities |
| 1. Methods of Assessment | Competency may be assessed through:   * 1. Written tests   2. Third party reports   3. Oral questioning   4. Interview   5. Observation |
| 1. Context of Assessment | Assessment could be conducted:   * On-the-job * Off-the–job * During industrial attachment |
| 1. Guidance information for assessment | Holistic assessment with related units in the sector |

# CORE UNITS OF COMPETENCY

# APPLY NUTRITION IN EMERGENCY

**UNIT CODE** MED/OS/NUD/CR/01/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to apply nutrition in emergency .it involves conducting rapid assessment on the nutrition situation, selecting food and nutrition emergency responses and plan, providing nutrition and health interventions and monitoring implementation of interventions.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the range.*** |
| 1. Conduct rapid assessment on the nutrition situation | * 1. Anthropometric assessment is carried out as per work place procedures   2. Physical and clinical assessment is carried out as per work place procedures   3. Nutrition condition is documented as per work place procedures |
| 1. Select food and nutrition emergency responses and plan | * 1. Nutrition status is determined as per client nutrition history   2. Therapeutic feeding program is designed as per type of feeding   3. Heath status of clients are determined as per work place procedures |
| 1. Provide nutrition and health interventions | * 1. Nutrition health education as per patient nutrition needs   2. Provision of therapeutic feeds as per work place procedures   3. Medical/nutrition underlying causes are checked as per patient nutrition needs |
| 1. Monitor implementation of interventions | * 1. Outcomes of nutrition related diet history are evaluated as per client nutrition needs   2. ***Anthropometric measurement*** outcomes are assessed as per clients requirement   3. Physical and clinical outcomes are evaluated as per nutrition diagnosis   4. Outcome of therapeutic feeds is assed as per work place procedures |
| 1. Document nutritional intervention during emergencies | * 1. MOH registers are obtained as per work place procedures   2. WFP registers are obtained as per work place procedures |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Anthropometric measurement | * + Weighing scales   + Measuring tapes   + Charts   + Height board |
|  |  |

**REQUIRED KNOWLEDGE AND UNDERSTANDING**

The individual needs to demonstrate knowledge of:

**Knowledge**

Anatomy and physiology

WHO guidelines

WFP guidelines

Macro and micro nutrients

**SKILLS**

The individual needs to demonstrate the following skills:

* ICT
* Communication
* Information technology
* Analysis
* Synthesis and evaluation
* Decision making
* Management
* Leadership

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:  Demonstrates;   1. Ability to conduct rapid assessment on the nutrition situation 2. Ability to select food and nutrition emergency responses and plan 3. Ability to provide nutrition and health interventions 4. Ability to monitor implementation of interventions 5. Ability to document nutritional intervention during emergencies |
| 1. Resource Implications | The following resources must be provided:   * 1. Nutrition books |
| 1. Methods of Assessment | Competency may be accessed through:   * 1. Written tests   2. Oral questioning   3. Third party reports   4. Case studies |
| 1. Context of Assessment | Competency may be assessed:   1. On the job 2. Off the job 3. In work placement (attachment) 4. Off the job assessment must be undertaken in a closely simulated workplace environment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry subsector, workplace and job roles is recommended. |

# MANAGE NUTRITION IN THE LIFE CYCLE

**UNIT CODE** MED/OS/NUD/CR/02/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to manage nutrition in the life cycle. It involves identifying terminologies in nutrition in the life cycle, demonstrating the knowledge of nutrition during pre-pregnancy, Pregnancy, Lactation, Infancy (0-24 months), preschoolers (25-59 months), pre-adolescents (6years-12 years), Adolescents (13years-19 years), adults (20years-60 years) and older persons/geriatric nutrition (60years and above) .

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the range.*** |
| 1. Identify terminologies in nutrition in the life cycle | * 1. Terminologies in the lifecycle are identified as per the existing nutrition policies and guidelines   2. ***Stages in the life cycle*** are identified and described as per the existing policies and guidelines   3. The important roles of nutrition is identified and described as per the different life stages   4. Nutrition vulnerability and risks are identified and described as per the different life stages   5. The factors that determine nutrition needs are identified as per different life stages |
| 1. Demonstrate knowledge in nutrition during pre-pregnancy | * 1. Nutrition needs of men and women before conception are identified and described as per resource materials   2. Importance of pre-conception nutrition knowledge and services are identified and described as per the resource materials and existing guidelines   3. The risk factors with nutrition implications are identified and described as per resource materials   4. Nutrition needs during preconception are identified as per the RDAs for macro and micronutrients |
| 1. Demonstrate knowledge in nutrition during Pregnancy | * 1. Terminologies during pregnancy are identified as per the existing policies and guideline   2. The ***stages of pregnancy*** are identified and their nutrition implications described as per existing resource materials   3. Complications during each stage of pregnancy are identified and described as per resource materials and guidelines   4. Nutrition needs during pregnancy are identified and described as per the RDAs for macro and micronutrients   5. Prenatal care services and other interventions for pregnant women are identified and described as per WHO/UNICEF policies and guidelines |
| 1. Demonstrate knowledge in nutrition during Lactation | * 1. Terminologies during lactation are identified as per the existing policies and guideline   2. Postnatal care services and other interventions for lactating women are identified and described as per WHO/UNICEF policies and guidelines   3. Breast feeding indicators and strategies are identified and described as per WHO/UNICEF policies and guidelines   4. Nutrition needs during lactation are identified and described as per the RDAs for macro and micronutrients |
| 1. Demonstrate knowledge in nutrition during Infancy (0-24 months) | * 1. Nutrition related terminologies in infancy are identified as per the existing policies and guideline   2. ***Nutrition requirements*** for infants 0-6 months/breast feeding indicators are described as per MOH, WHO/UNICEF policies and guidelines   3. Breast feeding in vulnerable situations and in the context of HIV and AIDS are describes as per MOH, WHO/UNICEF policies and guidelines   4. Initiatives to promote good breast-feeding practices are identified and described as per MOH, WHO/UNICEF policies and guidelines   5. Nutrition requirements and need of infants 0-6 months are identified and described as per MOH, WHO/UNICEF policies and guidelines   6. Nutrition requirements and feeding of infants 9 months to 11 months are described as per MOH, WHO/UNICEF policies and guidelines   7. Nutrition requirements and feeding of infants 12 months to 24 months are described as per MOH, WHO/UNICEF policies and guidelines |
| 1. Demonstrate knowledge in nutrition for preschoolers (25-59 months) | * 1. Nutrition related terminologies for preschoolers are identified as per the existing policies and guideline   2. Developmental milestones for preschoolers are described as per resource materials   3. Nutrition vulnerability for preschoolers are identified and described as per resource materials   4. Nutrition requirements for pre-school children are identified and described as per RDAs for macro and micronutrients, policies and guidelines |
| 1. Demonstrate knowledge in nutrition for pre-adolescents (6years-12 years) | * 1. Nutrition related terminologies for pre-adolescents are identified as per the existing policies and guideline   2. Developmental milestones are described as per resource materials   3. Nutrition vulnerabilities for pre-adolescents are identified and described as per resource materials   4. Nutrition requirements for pre-adolescents are identified and described as per RDAs for macro and micronutrients, policies and guidelines |
| 1. Demonstrate knowledge in nutrition for adolescents (13years-19 years) | * 1. Nutrition related terminologies for adolescents are identified as per the existing policies and guideline   2. Developmental changes in adolescence are described as per resource materials   3. Nutrition vulnerabilities for adolescents are identified and described as per resource materials   4. Nutrition requirements for adolescents are identified and described as per RDAs for macro and micronutrients, policies and guidelines   5. Factors influencing dietary practices and food choices are identified and described as per resource materials |
| 1. Demonstrate knowledge in nutrition for adults (20years-60 years) | * 1. Nutrition related terminologies in adulthood are identified as per the existing policies and guideline   2. Nutrition vulnerabilities and habits with nutrition implication are identified and described as per categories of adulthood   3. Nutrition requirements for early adulthood (20-40 years) are described as per RDAs for macro and micronutrients, policies and guidelines   4. Nutrition requirements for mid adulthood (40 years-60 years) are described as per RDAs for macro and micronutrients, policies and guidelines |
| 1. Demonstrate knowledge in nutrition for older persons/geriatric nutrition (60years and above) | * 1. Nutrition related terminologies for older persons are identified as per the existing policies and guideline   2. Nutrition assessment for the older persons are identified, described and demonstrated as per resource materials   3. Physiological, psychosocial and economic changes for older persons are described as per resource materials   4. Meal planning for the older person is described and demonstrated as per resource materials   5. Nutrition requirements for the older persons are identified and described as per RDAs for macro and micronutrients, policies and guidelines   6. Nutrient drug interactions for the older persons are identified and described as per resource materials   7. Interventions for the older persons in Kenya are identified and described as per existing policies |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Stages in the life cycle | * Pre-pregnancy * Pregnancy * Lactation * Infancy * Pre-school age * Pre-adolescents * Adolescents * Adulthood/early adulthood/mid adulthood/late adulthood or older persons |
| 1. Stages of pregnancy | * Implantation/first trimester * Cellular differentiation/second trimester * Growth/third trimester |
| 1. Nutrition requirements | * Calories * Carbohydrates * Proteins * Fats * Vitamins * Minerals * Water |
|  |  |

**REQUIRED KNOWLEDGE AND UNDERSTANDING**

The individual needs to demonstrate knowledge of:

**Knowledge**

* Anatomy and physiology
* WHO guidelines
* WFP guidelines
* Macro and micro nutrients

**SKILLS**

The individual needs to demonstrate the following skills:

* ICT
* Communication
* Information technology
* Analysis
* Synthesis and evaluation
* Decision making
* Management
* Leadership

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   1. Identified terminologies in nutrition in the life cycle 2. Demonstrated knowledge of nutrition during pre-pregnancy 3. Demonstrated knowledge of nutrition during Pregnancy 4. Demonstrated knowledge of nutrition during Lactation 5. Demonstrated knowledge of nutrition during infancy(0-24 months) 6. Demonstrated knowledge of nutrition for preschoolers (25-59 months) 7. Demonstrate knowledge of nutrition for pre-adolescents (6years-12 years) 8. Demonstrate knowledge of nutrition for adolescents (13years-19 years) 9. Demonstrated knowledge of nutrition for adults (20years-60 years) 10. Demonstrated knowledge of nutrition for older persons/geriatric nutrition (60years and above) |
| 1. Resource Implications | The following resources must be provided:   * 1. Nutrition books   2. Food models   3. Counselling cards   4. Food lab |
| 1. Methods of Assessment | Competency may be accessed through:   * 1. Written tests   2. Oral questioning   3. Third party reports   4. Case studies |
| 1. Context of Assessment | Competency may be assessed:   1. On the job 2. Off the job 3. In work placement (attachment) 4. Off the job assessment must be undertaken in a closely simulated workplace environment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry subsector, workplace and job roles is recommended. |

# APPLY PRINCIPLES OF HUMAN NUTRITION

**UNIT CODE:** MED/OS/NUD/CR/03/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to manage nutrition and dietetic services it includes: classifying different nutrients, demonstrate understanding of food metabolism, demonstrate understanding of the role of nutrition in disease occurrence and management, identifying factors that place client at nutritional risk and undertaking nutrition monitoring.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the range.*** |
| 1. Classify different nutrients | * 1. Determine nutrient needs as per client nutritional requirements   2. Macro and micro nutrients are assessed as per nutritional composition   3. Types of Macro and micro nutrients are categorized as per nutritional standard requirement   4. Concepts and basic principles of nutrition and dietetics are determined as per nutritional standards   5. Energy levels of different foods are determined as per client needs and standard nutritional requirement |
| 1. Demonstrate understanding of food metabolism | * 1. Describe Digestion in the GIT   2. Determine GIT sites of secretions and absorption   3. Explain factors affecting digestion, absorption and utilization.   4. Explain factors affecting bioavailability of macro and micro nutrients.   5. Assess factors that hinder metabolism. |
| 1. Understand role of nutrition in disease occurrence and management | * 1. Prevalence of nutrition implications in disease occurrence is assessed   2. Client’s nutrition assessment is evaluated as per standardized operating procedures   3. Dietary management in metabolic disorders and malnutrition is determined as per individual nutrition requirements   4. Nutritional support is explored as per client requirement |
| 1. Identify factors that place client at nutritional risk | * 1. Problems which may affect the client's ability to eat or drink are reported to the dietitian and/or other relevant health professional, according to organization policies and procedure   2. Client food intake is documented and reported according to organization policies and procedures   3. Feedback about changes to nutrition support requirements are provided to catering/food services   4. Client is informed of the dietary recommendation as per dietary requirements |
| 1. Undertake nutrition monitoring | * 1. The nutrition status of clients is identified as per standard/validated tools and nutritional indicators   2. Systems designed by a dietitian are followed to monitor client nutritional status   3. The progress of client nutritional status that is reported to the dietitian, and/or other health professional is evaluated according to standard protocols and timeframes |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Nutrients | * + Carbohydrates   + Proteins   + Lipids   + Vitamins   + Minerals   + Water |
|  |  |

**REQUIRED KNOWLEDGE AND UNDERSTANDING**

The individual needs to demonstrate knowledge of:

**Knowledge**

* Nutrition and disease
* Anatomy and physiology
* Food nutrient interaction.

**SKILLS**

The individual needs to demonstrate the following skills:

* ICT
* Communication
* Information technology
* Analysis
* Synthesis and evaluation
* Decision making
* Management
* Leadership

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:  Demonstrates;   1. Ability to assist client with meal selection 2. Ability to prepare and deliver nutrition support services 3. Ability to comply with personal hygiene standards 4. Ability to support the client with acceptance of nutrition care plan 5. Ability to identify factors that place client at nutritional risk 6. Ability to undertake nutrition monitoring |
| 1. Resource Implications | The following resources must be provided:   * 1. Nutrition books |
| 1. Methods of Assessment | Competency may be accessed through:   * 1. Written tests   2. Oral questioning   3. Third party reports   4. Case studies |
| 1. Context of Assessment | Competency may be assessed:   * On the job * Off the job * In work placement (attachment)   Off the job assessment must be undertaken in a closely simulated workplace environment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry subsector, workplace and job roles is recommended. |

# CONDUCT NUTRITION CARE PROCESS

**UNIT CODE:** MED/OS/NUD/CR/04/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required toexamine client nutrition status. It includes carrying out nutrition assessment, conduct nutrition diagnosis, conduct nutrition interventions, and conduct nutrition monitoring and conducting nutrition evaluation.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the range.*** |
| 1. Carry out nutrition assessment | * 1. Anthropometric measurements methods and tools determined as per resource materials, user needs, policies and guidelines   2. Biochemical assessments are identified, interpreted and evaluated as per resource materials, biological variations/biomarkers, user needs, policies and guidelines   3. Clinical and physical assessments are identified and determined as per resource materials, user needs, indicators, policies and guidelines   4. Dietary assessment is conducted as per resource materials, user needs, policies and guidelines   5. Socio-economic assessment is done as per resource materials, user needs, policies and guidelines, patients file   6. Functionality assessment is done as per resource materials, user needs, policies and guidelines, patients file |
| 1. Conduct nutrition diagnosis | * 1. Underlying medical condition of the client are determined as per the patient’s file   2. Nutrition problems of the client are labeled and classified as per patients/client’s history, file   3. Etiology of conditions are identified and described as per resource material, patient history, policies and guidelines   4. Signs and symptoms of the conditions are identified and described as per, physical observations, resource materials, patient file, policies and guidelines.   5. Nutrition diagnosis is determined as per results of anthropometric measurements, biochemical, clinical signs and symptoms, dietary, socio-economic and functional assessments. |
| 1. Conduct prescriptions for nutrition interventions | * 1. Nutrition needs are prioritized and addressed as per the nutrition diagnosis   2. Appropriate nutrition interventions are identified and selected as per clients/patients nutrition needs, resource materials, policies and   3. Diet plans are designed as per clients/patients nutrition needs, policies and guidelines.   4. Designed care plans are implemented as per intervention plans, resource materials, policies and guidelines |
| 1. Conduct monitoring dietary assessment | * 1. Daily monitoring of the patients uptake and response to the interventions done as per intervention plan, resource materials, policies and guidelines   2. Nutrition prescriptions and documentation are done as per intervention plan, resource materials, policies and guidelines |
| 1. Conduct evaluation for the entire nutrition care process | * 1. Outcomes of the entire nutrition care process are assessed as per plans, patients response, user needs, resource materials, policies and guidelines   2. Appropriate decisions are made and documented as per plans, patients response, user needs, resource materials, policies and guidelines |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Errors | * Systematic * Random |
| 1. Dietary assessment method | * Direct * Indirect |
|  |  |

**REQUIRED KNOWLEDGE AND UNDERSTANDING**

The individual needs to demonstrate knowledge of:

**Knowledge**

* Anthropometric tools
* Anatomy and physiology
* Biochemical analysis
* Food, nutrients and diseases

**SKILLS**

The individual needs to demonstrate the following skills:

* ICT
* Communication
* Information technology
* Analysis
* Synthesis and evaluation
* Decision making
* Management
* Leadership
* Interpretation
* Numeracy

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:   1. Carried out nutrition assessment 2. Conducted nutrition diagnosis 3. Conducted prescriptions for nutrition interventions 4. Conducted monitoring dietary assessment 5. Conducted evaluation for the entire nutrition care process |
| 1. Resource Implications | The following resources must be provided:   1. PPES 2. Assessment location 3. Fully equipped laboratory 4. Nutrition equipment’s |
| 1. Methods of Assessment | Competency may be accessed through:   * 1. Written tests   2. Oral questioning   3. Third party reports   4. Case studies |
| 1. Context of Assessment | Competency may be assessed:   1. On the job 2. Off the job 3. In work placement (attachment) 4. Off the job assessment must be undertaken in a closely simulated workplace environment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry subsector, workplace and job roles is recommended. |

# PLAN AND MANAGE MEALS

**UNIT CODE:** MED/OS/NUD/CR/05/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to plan and manage meals. It includes: determining client nutritional needs, assisting client with meal selection, formulating diet recipes and menu, preparing formulated meals, assessing food safety and hygiene and documenting meal planning and management.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the range.*** |
| 1. Determine client nutritional needs | * 1. client diet history is obtained as per work place procedures   2. client medical history is obtained as per work place procedure   3. client biochemical analysis is carried out as per work place procedures   4. client clinical assessment is carried out as per client medical condition |
| 1. Assist client with meal selection | * 1. Client food preferences are recorded and acted upon according to organization procedures   2. Client are advised on meal choices as per care plan developed by a dietitian or other relevant health professional   3. Client are assisted with marking menus, placing of meal orders and/or selection of meal as per client requests |
| 1. Formulate diet recipes and menu | * 1. Client daily nutrition requirement are determined as per client nutrition needs   2. Guide on appropriate menu as per client nutrition needs   3. Food ingredients are selected as per nutrition requirement   4. Recipe is prepared as per nutritional requirements |
| 1. Prepare formulated meals | * 1. Recipe is obtained as per client nutrition needs   2. Selected ingredients are obtained as per client need   3. Meal is prepared as per menu |
| 1. Asses food safety and hygiene | * 1. Nutrition support services are prepared according to food safety program   2. Processes and practices that are not consistent with the food safety program are identified and reported as per work place procedures   3. Corrective action is taken according to the food safety program   4. Nutrition support information or items are supplied according to organization procedures   5. Out of date nutrition support supplements and/or outdated nutrition support information are discarded as per work place procedures   6. Personal hygiene requirements of the food safety program are identified as per work place procedures   7. Health conditions and/or illness are reported according to the food safety program   8. PPES for food handling tasks are worn according to the food safety plan |
| 1. Document meal planning and management | * 1. ***Registers*** are availed as per work place procedures   2. Dietary regime is availed as per work place procedures   3. Patient file is maintained as per work place policy |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Registers | * 1. Diet requisition   2. Diet distribution   3. Menu cards   4. Diet prescriptions |
|  |  |

**REQUIRED KNOWLEDGE AND UNDERSTANDING**

The individual needs to demonstrate knowledge of:

**Knowledge**

* Nutrition heath education and counselling
* Diet therapy
* Reference charts
* Nutrition supplements
* Nutrient drug interaction

**SKILLS**

The individual needs to demonstrate the following skills:

* ICT
* Communication
* Information technology
* Analysis
* Synthesis and evaluation
* Decision making
* Management
* Leadership

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:  Demonstrates;   1. Ability to determine client nutritional needs 2. Ability to assist client with meal selection 3. Ability to formulate diet recipes and menu 4. Ability to prepare formulated meals 5. Ability to asses food safety and hygiene 6. Ability to document meal planning and management |
| 1. Resource Implications | The following resources must be provided:   * 1. Nutrition books |
| 1. Methods of Assessment | Competency may be accessed through:   * 1. Written tests   2. Oral questioning   3. Third party reports   4. Case studies |
| 1. Context of Assessment | Competency may be assessed:   1. On the job 2. Off the job 3. In work placement (attachment) 4. Off the job assessment must be undertaken in a closely simulated workplace environment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry subsector, workplace and job roles is recommended. |

# MANAGE MATERNAL AND CHILD NUTRITION

**UNIT CODE:** MED/OS/NUD/CR/06/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to manage maternal and child nutrition.it involves advising on nutrition requirement during pregnancy, managing preterm and low birth weight baby, informing on complementary feeding and weaning, managing challenges in maternal child nutrition, providing nutrient supplementation in pregnancy and childhood and documenting maternal and child nutrition care

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| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the range.*** |
| 1. Advice on nutrition requirement during pregnancy | * 1. Adequate weight gain through sufficient and balanced protein and energy intake is promoted as per workplace requirement   2. consistent and continued use of micronutrient supplements, ***food supplements*** or fortified foods are encouraged as per client nutrition needs   3. Clients are advised that a healthy diet during pregnancy contains adequate energy, protein, vitamins and minerals, obtained through the consumption of a variety of foods |
| 1. Manage preterm and low birth weight baby | * 1. Babies growth is monitored as per work place procedures   2. Babies are fed as per their nutrition requirement   3. Babies’ heath status is monitored as per work place procedures   4. Exclusive breastfeeding is encouraged for the first six months   5. Breast milk is fortification is carried out as per work place procedures |
| 1. Inform on complementary feeding | * 1. Dietary requirements are obtained as per work place procedures   2. Breastfeeding is observed for two years as per WHO guidelines   3. Babies growth is monitored as per work place procedures   4. Babies are supplemented with micronutrients as per their nutrition requirements |
| 1. Manage challenges in maternal child nutrition | * 1. Macro and micro nutrients deficiency are addressed as per nutritional needs   2. Food intake is monitored as per nutrition requirements   3. Quality of nutrition is improved as per work place procedures   4. Food malnutrition is addressed as per nutrition requirements   5. Infections are controlled as per standard operating procedures   6. Nutrition related disorders are addressed as per work place procedures   7. Congenital disorders are addressed as per standard operating procedures |
| 1. Provide nutrient supplementation in pregnancy and childhood | * 1. Macro and micro nutrients are administered as per WHO guidelines   2. IMAM guidelines are followed as per WHO standards   3. Therapeutic feeding is administered as per WHO standards |
| 1. Document maternal and child nutrition care | * 1. Mother baby booklet is obtained as per WHO standards   2. MOH registers are availed as per ministry of health standards |

**RANGE**

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

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| --- | --- |
| **Variable** | **Range** |
| 1. nutritional supplements | 1.1 Folic acid  1.2 Vitamin A  1.3 Iron  1.4 Multiple micronutrients |
|  |  |

**REQUIRED KNOWLEDGE AND UNDERSTANDING**

The individual needs to demonstrate knowledge of:

**Knowledge**

Macro and micro nutrients

WHO guidelines

WFP guidelines

Anatomy and physiology

**SKILLS**

The individual needs to demonstrate the following skills:

* ICT
* Communication
* Information technology
* Analysis
* Synthesis and evaluation
* Decision making
* Management
* Leadership

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:  Demonstrates;   1. Ability to advice on nutrition requirement during pregnancy 2. Ability to manage preterm and low birth weight baby 3. Ability to inform on complementary feeding and weaning 4. Ability to manage challenges in maternal child nutrition 5. Ability to provide nutrient supplementation in pregnancy and childhood 6. Ability to document maternal and child nutrition care |
| 1. Resource Implications | The following resources must be provided: |
| 1. Methods of Assessment | Competency may be accessed through:   * 1. Written tests   2. Oral questioning   3. Third party reports   4. Case studies |
| 1. Context of Assessment | Competency may be assessed:   * On the job * Off the job * In work placement (attachment)   Off the job assessment must be undertaken in a closely simulated workplace environment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry subsector, workplace and job roles is recommended. |

# CONDUCT NUTRITION EDUCATION AND COUNSELLING

**UNIT CODE:** MED/OS/NUD/CR/07/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to manage nutrition and dietetic services It includes: assessing concepts of counselling, evaluating patients’ response to nutritional care plan, exploring dietary modifications and supporting the client with acceptance of nutrition care plan

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the range.*** |
| 1. Asses concepts of counselling | * 1. ***Counselling techniques*** are identified are as per work place procedures   2. Counselling environment is identified as per work place procedures   3. Ethical principles of counselling are observed as per work place policy |
| 1. Evaluate patients’ response to nutritional care plan | * 1. Client dietary compliance is assessed as per work place procedure   2. Client knowledge on recommended diet is tested as per work place procedures   3. Counselling goals are monitored as per work place policy |
| 1. Explore dietary modifications | * 1. Critical nutrition actions are observed as per work place procedures   2. Diet recommendation are given as per work place procedures   3. Result of nutrition assessment are interpreted as per work place policy |
| 1. Support the client with acceptance of nutrition care plan | * 1. The acceptability, tolerance and consumption of meals by the client are reported to the dietitian or relevant health professional   2. Problems which may lead to poor acceptance and/or tolerance of the nutrition care plan by client are reported to the dietitian   3. Information regarding nutrition care plan is provided to client when appropriate and as directed by dietitian or relevant health professional   4. Feedback about changes to food preferences and nutrition care are provided to catering/food services and to dietitians |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Counselling techniques | * + Family therapy   + Cognitive distortion   + Cognitive behavioral therapy   + Communication skill |
|  |  |

**REQUIRED KNOWLEDGE AND UNDERSTANDING**

The individual needs to demonstrate knowledge of:

**Knowledge**

* Etiology
* Anatomy and physiology
* Macro and micro nutrients
* Nutrition and disease

**SKILLS**

The individual needs to demonstrate the following skills:

* ICT
* Communication
* Information technology
* Analysis
* Synthesis and evaluation
* Decision making
* Management
* Leadership

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:  Demonstrates;   1. Ability to asses’ concepts of counselling 2. Ability to evaluate patients’ response to nutritional care plan 3. Ability to explore dietary modifications 4. Ability to support the client with acceptance of nutrition care plan |
| 1. Resource Implications | The following resources must be provided:   * 1. Nutrition books |
| 1. Methods of Assessment | Competency may be accessed through:   * 1. Written tests   2. Oral questioning   3. Third party reports   4. Case studies |
| 1. Context of Assessment | Competency may be assessed:   1. On the job 2. Off the job 3. In work placement (attachment) 4. Off the job assessment must be undertaken in a closely simulated workplace environment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry subsector, workplace and job roles is recommended. |

# PROVIDE DIET THERAPY I

**UNIT CODE:** MED/OS/NUD/CR/08/6/A

**UNIT DESCRIPTION**

This unit addresses the unit of competency: provide diet therapy in diseases states involving GIT disorders; diarrhoea, nausea and vomiting, constipation, peptic ulcers, gastritis, diverticular disease, hiatal hernia, celiac disease. Febrile disorders; malaria, pneumonia, coughs, TB, measles and cancers.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **EMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the range.*** |
| 1. Identify terminologies in diet therapy I | 1. Terminologies under diet therapy I are identified and described as per resource materials, policies and guidelines 2. The relationship between nutrition and disease and the roles of nutrition in disease management are clearly illustrated as per resource materials, policies and guidelines 3. The diet planning principles and objectives of diet therapy are identified and described as per resource material, policies and guidelines |
| 1. Demonstrate understanding in nutrition management of GIT disorders | 1. Terminologies under GIT disorders are identified and described as per resource materials, policies and guidelines 2. Disorders the upper GIT and nutrition management are identified and described as per resource materials, policies and guidelines 3. Disorders of the lower GIT and nutrition management are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in nutrition management of the respiratory and febrile disorders | 1. Terminologies under respiratory and febrile disorders are identified and described as per resource materials, policies and guidelines 2. Disorders of upper, lower respiratory tract, febrile disorders and their nutrition management are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in nutritional management of cancers | 1. Terminologies in cancers are identified and described as per resource materials, policies and guidelines 2. Pathophysiology of cancers are identified and described as per resource materials, policies and guidelines 3. Types of cancers are identified and described as per resource materials, policies and guidelines 4. Etiology of cancers are identified and described as per resource materials, policies and guidelines 5. Cancer treatment and nutrition implications are identified and described as per resource materials, policies and guidelines 6. Nutritional management of cancers are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in nutritional management of HIV and AIDS | * 1. Terminologies in HIV and AIDS are identified and described as per resource materials, policies and guidelines   2. Relationship between malnutrition and HIV and AIDS, and the roles of nutrition in management of HIV and AIDS Terminologies in cancers are identified and described as per resource materials, policies and guidelines   3. Opportunistic infections are identified and their nutritional management described as per resource materials, policies and guidelines   4. Knowledge on Infant and young child feeding in the context of HIV and AIDS is demonstrated as per resource materials, policies and guidelines   5. Knowledge on nutrient drug interactions in ART is demonstrated as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in nutritional management of childhood disorders | 1. Childhood disorders are identified and described as per resource materials, policies and guidelines |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable**   * + - 1. Type of feeding | **Range**   * Normal * Modified kitchen feeds * Enteral feeds * Parenteral feeds |
| * + - 1. Implications | * Acute * Chronic |
|  |  |

**REQUIRED KNOWLEDGE AND UNDERSTANDING**

The individual needs to demonstrate knowledge of:

**Knowledge**

Nutrition and disease

Anatomy and physiology

WHO guidelines

MOH guidelines

Macro and micro nutrients

Biochemical analysis

**SKILLS**

The individual needs to demonstrate the following skills:

* ICT
* Communication
* Information technology
* Analysis
* Synthesis and evaluation
* Decision making
* Management
* Leadership

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:  Demonstrates;   1. Ability to carry out client nutritional assessment 2. Ability to identify client’s condition 3. Ability to design phases of the care process 4. Ability to determine special dietary needs 5. Ability to determine types of feeding 6. Ability to carry out nutritional risk assessment |
| 1. Resource Implications | The following resources must be provided:   1. Nutrition books |
| 1. Methods of Assessment | Competency may be accessed through:   * 1. Written tests   2. Oral questioning   3. Third party reports   4. Case studies |
| 1. Context of Assessment | Competency may be assessed:   1. On the job 2. Off the job 3. In work placement (attachment) 4. Off the job assessment must be undertaken in a closely simulated workplace environment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry subsector, workplace and job roles is recommended. |

# PROVIDE DIET THERAPY II

**UNIT CODE:** MED/OS/NUD/CR/09/6/A

**UNIT DESCRIPTION**

This unit addresses the unit of competency: provide diet therapy in diseases states involving CVDs; Atherosclerosis, stroke, hypertension, myocardial infarction, angina pectoris, deep vein thrombosis. Renal disorders; glomerulonephritis, nephrotic syndrome, kidney stones AKD, CKD, kidney failure. Liver and gallbladder disorders; jaundice, liver encephalopathy, hepatitis, alcoholic liver disease, liver cirrhosis, gallbladder disease, disease of the pancreas. Metabolic disorders; diabetes mellitus, hyperthyroidism, hypothyroidism, hyperkalaemia, ketoacidosis. Mental and mood disorders; schizophrenia, bipolar, depression anxiety disorders, post trauma stress (PTSD) disorders and degenerative disorders.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **EMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the range.*** |
| 1. Identify terminologies in diet therapy II | * 1. Terminologies under diet therapy II are identified and described as per resource materials, policies and guidelines   2. The relationship between nutrition and disease and the roles of nutrition in disease management are clearly illustrated as per resource materials, policies and guidelines   3. The objectives of diet therapy II are identified and described as per resource material, policies and guidelines |
| 1. Demonstrate understanding in nutrition management of CVDs disorders | * 1. Terminologies under CVDs disorders are identified and described as per resource materials, policies and guidelines   2. CVDs are identified and their pathophysiology discussed as per resource materials, policies and guidelines   3. Nutritional management of CVDs are are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in nutrition management of the renal disorders | * 1. Terminologies under renal disorders are identified and described as per resource materials, policies and guidelines   2. Renal disorders are identified and their pathophysiology discussed as per resource materials, policies and guidelines   3. Nutritional management of renal disorders are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in nutritional management of liver and gallbladder disorders | * 1. Terminologies under liver and gallbladder disorders are identified and described as per resource materials, policies and guidelines   2. Liver and gallbladder disorders are identified and their pathophysiology discussed as per resource materials, policies and guidelines   3. Nutritional management of liver and gallbladder disorders are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in nutritional management of metabolic disorders | * 1. Terminologies under metabolic disorders are identified and described as per resource materials, policies and guidelines   2. Metabolic disorders are identified and their pathophysiology discussed as per resource materials, policies and guidelines   3. Nutritional management of metabolic disorders are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in nutritional management of mental and mood disorders | * 1. Terminologies under mental and mood disorders are identified and described as per resource materials, policies and guidelines   2. Mental and mood disorders are identified and their pathophysiology discussed as per resource materials, policies and guidelines   3. Nutritional management of mental and mood disorders are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in nutritional management of degenerative disorders | 1. Degenerative disorders are identified and described as per resource materials, policies and guidelines |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable**   1. Type of feeding | **Range**   * Normal * Modified kitchen feeds * Enteral feeds * Parenteral feeds |
| 1. Implications | * Acute * Chronic |
|  |  |

**REQUIRED KNOWLEDGE AND UNDERSTANDING**

The individual needs to demonstrate knowledge of:

* Nutrition and disease
* Anatomy and physiology
* WHO guidelines
* MOH guidelines
* Macro and micro nutrients
* Biochemical analysis

**SKILLS**

The individual needs to demonstrate the following skills:

* ICT
* Communication
* Information technology
* Analysis
* Synthesis and evaluation
* Decision making
* Management
* Leadership

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:  Demonstrates;   1. Ability to carry out client nutritional assessment 2. Ability to identify client’s condition 3. Ability to design phases of the care process 4. Ability to determine special dietary needs 5. Ability to determine types of feeding 6. Ability to carry out nutritional risk assessment |
| 1. Resource Implications | The following resources must be provided:   1. Nutrition books |
| 1. Methods of Assessment | Competency may be accessed through:   * 1. Written tests   2. Oral questioning   3. Third party reports   4. Case studies |
| 1. Context of Assessment | Competency may be assessed:   1. On the job 2. Off the job 3. In work placement (attachment) 4. Off the job assessment must be undertaken in a closely simulated workplace environment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry subsector, workplace and job roles is recommended. |

# PERFORM DIETETICS OPERATIONS

**UNIT CODE:** MED/OS/NUD/CR/10/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to perform dietetics operations. It includes identifying terminologies in dietetics, demonstrating understanding of modified diets, demonstrating understanding in enteral nutrition, demonstrating understanding in parenteral nutrition, demonstrating understanding in nutritional management of surgery, trauma, and burn, demonstrating understanding of palliative and hospice care and demonstrating understanding in nutrient drug interactions.

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**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **EMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the range.*** |
| 1. Identify terminologies in dietetics | 1. Terminologies in dietetics are identified and described as per resource materials, policies and guidelines 2. Normal and modified diets are described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding of modified diets | 1. Factors to be considered when modifying a diet are identified and described as per resource materials, policies and guidelines 2. Therapeutic modification of normal diet is described and performed as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in enteral nutrition | 1. Terminologies in enteral nutrition are identified and described as per resource materials, policies and guidelines 2. Tube feeding/enteral nutrition routes are identified and described as per resource materials, policies and guidelines 3. Types of enteral formulas are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in parenteral nutrition | 1. Terminologies in parenteral nutrition are identified and described as per resource materials, policies and guidelines 2. Parenteral nutrition routes are identified and described as per resource materials, policies and guidelines 3. Administration of parenteral nutrition are identified and described as per resource materials, policies and guidelines 4. Complications of parenteral nutrition and their nutritional management are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in nutritional management of surgery, trauma, and burn | 1. Terminologies in surgery, trauma and burns are identified and described as per resource materials, policies and guidelines 2. Burns pathophysiology and their nutritional management are identified and described as per resource materials, policies and guideline 3. Surgery nutrition implications of surgery and management are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding of palliative and hospice care | 1. Terminologies in palliative and hospice care are identified and described as per resource materials, policies and guidelines 2. Nutrition support during palliative and hospice care are identified and described as per resource materials, policies and guidelines. |
| 1. Demonstrate understanding in nutrient drug interactions | 1. Terminologies in nutrient drug interactions are identified and described as per resource materials, policies and guidelines 2. Specific drug nutrient interactions with nutrition implications are identified and described as per resource materials, policies and guidelines |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable**   1. Type of feeding | **Range**  Normal  Modified kitchen feeds  Enteral feeds  Parenteral feeds |
| 1. Implications | Acute  Chronic |
|  |  |

**REQUIRED KNOWLEDGE AND UNDERSTANDING**

The individual needs to demonstrate knowledge of:

**Knowledge**

* Nutrition and disease
* Anatomy and physiology
* WHO guidelines
* MOH guidelines
* Macro and micro nutrients
* Biochemical analysis

**SKILLS**

The individual needs to demonstrate the following skills:

* ICT
* Communication
* Information technology
* Analysis
* Synthesis and evaluation
* Decision making
* Management
* Leadership

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:  Demonstrates;   1. Ability to carry out client nutritional assessment 2. Ability to identify client’s condition 3. Ability to design phases of the care process 4. Ability to determine special dietary needs 5. Ability to determine types of feeding 6. Ability to carry out nutritional risk assessment |
| 1. Resource Implications | The following resources must be provided:   1. Nutrition books |
| 1. Methods of Assessment | Competency may be accessed through:   * 1. Written tests   2. Oral questioning   3. Third party reports   4. Case studies |
| 1. Context of Assessment | Competency may be assessed:   1. On the job 2. Off the job 3. In work placement (attachment) 4. Off the job assessment must be undertaken in a closely simulated workplace environment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry subsector, workplace and job roles is recommended. |

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# APPLY DIETETIC PRINCIPLES

**Unit code**: MED/OS/NUD/CR/11/6/A/A

**Unit Description**

This unit specifies the competencies required to manage nutrition and dietetic services. It includes: diet modifications, enteral and parenteral nutrition, surgery, trauma and burns management, and palliative and hospice care and drug nutrient interactions.

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **EMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the range.*** |
| 1. Identify terminologies in dietetics | 1. Terminologies in dietetics are identified and described as per resource materials, policies and guidelines 2. Normal and modified diets are described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding of modified diets in the management of non-communicable and communicable diseases | * 1. Diet modifications in the management of non-communicable disorders are described as per relevant resource materials and work procedure.   2. Diet modification in the management of communicable disorders are described as per the relevant resource materials and work procedures   3. Modified diets are produced as per work procedures and relevant resource materials |
| 1. Demonstrate understanding in the management of malnutrition and micronutrient deficiencies of public health concerns | * 1. Management of ***SAM*** and ***MAM*** are described as per ***IMAM*** guidelines and other resource materials   2. Management of overweight and other eating disorders is described as per work procedures, MOH, WHO and other relevant resource materials   3. Roles of nutrient supplements and fortified foods in the management of micronutrient deficiencies of public health concerns are discussed as per relevant resource materials and work procedures |
| 1. Demonstrate understanding in enteral nutrition | 1. Terminologies in enteral nutrition are identified and described as per resource materials, policies and guidelines 2. Tube feeding/enteral nutrition routes are identified and described as per resource materials, policies and guidelines 3. Types of enteral formulas are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in parenteral nutrition | 1. Terminologies in parenteral nutrition are identified and described as per resource materials, policies and guidelines 2. Parenteral nutrition routes are identified and described as per resource materials, policies and guidelines 3. Administration of parenteral nutrition are identified and described as per resource materials, policies and guidelines 4. Complications of parenteral nutrition and their nutritional management are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding in nutritional management of surgery, trauma, and burn | 1. Terminologies in surgery, trauma and burns are identified and described as per resource materials, policies and guidelines 2. Burns pathophysiology and their nutritional management are identified and described as per resource materials, policies and guideline 3. Surgery nutrition implications of surgery and management are identified and described as per resource materials, policies and guidelines |
| 1. Demonstrate understanding of palliative and hospice care | 1. Terminologies in palliative and hospice care are identified and described as per resource materials, policies and guidelines 2. Nutrition support during palliative and hospice care are identified and described as per resource materials, policies and guidelines. |
| 1. Demonstrate understanding in nutrient drug interactions | 1. Terminologies in nutrient drug interactions are identified and described as per resource materials, policies and guidelines 2. Specific drug nutrient interactions with nutrition implications are identified and described as per resource materials, policies and guidelines |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range**  May include but not limited to: |
| 1. Type of feeding | * Normal * Modified kitchen feeds * Enteral feeds * Parenteral feeds |
| 1. Implications | * Acute * Chronic |
| 1. SAM | * Severe Acute malnutrition |
| 1. MAM | * Moderate Acute Malnutrition |
| 1. IMAM | * Integrated Management of Acute Malnutrition |

**REQUIRED KNOWLEDGE AND UNDERSTANDING**

The individual needs to demonstrate knowledge of:

**Knowledge**

* Nutrition and disease
* Anatomy and physiology
* WHO guidelines
* MOH guidelines
* Macro and micro nutrients
* Biochemical analysis

**SKILLS**

The individual needs to demonstrate the following skills:

* ICT
* Communication
* Information technology
* Analysis
* Synthesis and evaluation
* Decision making
* Management
* Leadership

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:  Demonstrates;   1. Ability to carry out client nutritional assessment 2. Ability to identify client’s condition 3. Ability to design phases of the care process 4. Ability to determine special dietary needs 5. Ability to determine types of feeding 6. Ability to carry out nutritional risk assessment |
| 1. Resource Implications | The following resources must be provided:   1. Skills lab 2. Library 3. Fully equipped kitchen 4. Food lab |
| 1. Methods of Assessment | Competency may be accessed through:   * 1. Written tests   2. Oral questioning   3. Third party reports   4. Case studies |
| 1. Context of Assessment | Competency may be assessed:   1. On the job 2. Off the job 3. In work placement (attachment)   Off the job assessment must be undertaken in a closely simulated workplace environment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry subsector, workplace and job roles is recommended. |

# CONDUCT NUTRITION ASSESSMENT AND SURVEILLANCE

**UNIT CODE:** MED/OS/NUD/CR/12/6/A

**UNIT DESCRIPTION**

This unit specifies the competencies required to conduct nutrition assessment and surveillance .it includes conducting anthropometric assessment, interpreting biochemical assessment result, conducting clinical examination, conducting dietary surveys, conducting nutrition surveillance and conducting program monitoring and evaluation

**ELEMENTS AND PERFORMANCE CRITERIA**

|  |  |
| --- | --- |
| **ELEMENT**  These describe the **key outcomes** which make up **workplace function**. | **PERFORMANCE CRITERIA**  These are **assessable** statements which specify the required level of performance for each of the elements.  ***Bold and italicized terms are elaborated in the range.*** |
| 1. Conduct anthropometric assessment | * 1. Anthropometric measurements are determined as per user needs   2. Anthropometric method is determined as per user needs   3. Anthropometric tools are identified as per anthropometric measurement   4. Anthropometric measurements are evaluated as per anthropometric results |
| 1. Interpret biochemical assessment result | * 1. Laboratory results are interpreted as per reference interval   2. Laboratory result are evaluated as per biological variation knowledge   3. Influence of ***errors*** is determined   4. Diagnostic sensitivity and specify are identified |
| 1. Conduct clinical examination | * 1. Patient medical history is obtained as per organizational procedures   2. Systems are reviewed as per physical examination   3. Physical examination is conducted as per client needs   4. Risk assessment is carried out as per medical procedures. |
| 1. Conduct dietary surveys | * 1. ***Dietary method*** is determined as per work place policy   2. Dietary recall questionnaire is conducted as per client nutrition requirements   3. Food frequency questionnaire are conducted as per nutritional requirement   4. Diet history is obtained as per clients’ records |
| 1. Conduct nutrition surveillance | * 1. Method of nutrition surveillance is determined   2. Surveillance information is obtained   3. Type of nutrition survey is determined |

**RANGE**

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

|  |  |
| --- | --- |
| **Variable** | **Range** |
| 1. Dietary method | * + 24-hour food recall   + Food frequency   + Food diary |
|  |  |

**REQUIRED KNOWLEDGE AND UNDERSTANDING**

The individual needs to demonstrate knowledge of:

**Knowledge**

* Surveillance
* Research
* Topography

**SKILLS**

The individual needs to demonstrate the following skills:

* ICT
* Communication
* Information technology
* Analysis
* Synthesis and evaluation
* Decision making
* Management
* Leadership

**EVIDENCE GUIDE**

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

|  |  |
| --- | --- |
| 1. Critical Aspects of Competency | Assessment requires evidence that the candidate:  Demonstrates;   1. Ability to conduct anthropometric assessment 2. Ability to conduct interpret biochemical assessment result 3. Ability to conduct clinical examination 4. Ability to conduct dietary surveys 5. Ability to conduct nutrition surveillance |
| 1. Resource Implications | The following resources must be provided:   * 1. Nutrition surveys data |
| 1. Methods of Assessment | Competency may be accessed through:   * 1. Written tests   2. Oral questioning   3. Third party reports   4. Case studies |
| 1. Context of Assessment | Competency may be assessed:   * On the job * Off the job * In work placement (attachment)   Off the job assessment must be undertaken in a closely simulated workplace environment |
| 1. Guidance information for assessment | Holistic assessment with other units relevant to the industry subsector, workplace and job roles is recommended. |