



CORE COMPETENCIES REFERENCE MANUAL FOR NUTRITION TECHNOLOGISTS TO PRACTISE IN ZAMBIA

CORE COMPETENCIES AND MINIMUM STANDARDS

Table of Contents

1.0 MINIMUM COMPETENCE STANDARDS FOR OUTCOME GUIDELINES	Error! Bookmark not defined.
Title of the programme: DIPLOMA IN FOOD AND NUTRITION	3
2.0 INTRODUCTION	3
3.0 EXIT EXAMINATIONS AND AWARD OF THE DIPLOMA IN FOOD AND NUTRITION BY TRAINING INSTITUTIONS	4
4.0 LICENSURE EXAMINATIONS BY THE HEALTH PROFESSIONS COUNCIL OF ZAMBIA	4
5.0 CURRICULUM & COMPETENCE OUTCOME GUIDELINES	5
6.0 SPECIFIC CURRICULUM OUTCOMES (KNOWLEDGE, SKILLS AND ATTITUDE)	7
OUTCOME 1: KNOWLEDGE	7
Competence (Knowledge).....	Error! Bookmark not defined.
Courses From Syllabus.....	Error! Bookmark not defined.
Performance Criteria.....	Error! Bookmark not defined.
1. Food Science	Error! Bookmark not defined.
Basic food science and applied food science	Error! Bookmark not defined.
6. Explain the principles of food hygiene, quality and safety	Error! Bookmark not defined.
Dietetics	Error! Bookmark not defined.
Dietetics I and Dietetics II	Error! Bookmark not defined.
1. Define dietetics and related concepts	Error! Bookmark not defined.
Community Nutrition and Food Security	Error! Bookmark not defined.
Public Health I, Public Health II and Community nutrition and Food Security ...	Error! Bookmark not defined.
1. Explain what public health nutrition is	Error! Bookmark not defined.
Nutrition Education and Health Promotion	Error! Bookmark not defined.
Nutrition educations and health promotion.....	Error! Bookmark not defined.
1. Define the concepts of health, nutrition education, health education and health promotion	Error! Bookmark not defined.
Human Nutrition	Error! Bookmark not defined.
1. Principles of Human Nutrition	Error! Bookmark not defined.
1. Define and describe basic human nutrition.....	Error! Bookmark not defined.
Entrepreneurship in Food Service Management	Error! Bookmark not defined.
Entrepreneurship in Food service management and	Error! Bookmark not defined.

1. Describe the principles of food service for specific population groups..... **Error! Bookmark not defined.**

OUTCOME 2: SKILLS 13

OUTCOME 3: ATTITUDE 15

7.0 BLUE PRINT FOR WEIGHTING..... 15

8.0 CORE PROCEDURES..... 16

9.0 REFERENCE MATERIALS FOR DIPLOMA IN NUTRITION..... 17

QUALIFICATION AND RESPONSIBILITIES

Title of the programme: DIPLOMA IN FOOD AND NUTRITION OR EQUIVALENT

Key accountability for the job: Provide guidance to individuals, groups or institutions of interest on food, nutrition and health issues.

Primary roles and responsibilities:

- Assess patient's nutritional needs
- Counseling and providing nutritional advice
- Public health and nutrition promotion
- Working alongside a registered Nutritionist/Dietitian in formulating clinical nutrition treatment plans for a client
- Delivery of group education sessions on nutrition and health topics
- Implementing and coordinating nutrition programmes and education sessions at local level

1.0 INTRODUCTION

The Health Professions Council of Zambia (HPCZ) is a statutory body that was established by the Health Professions Act No. 24 of 2009. The Act renames and continues the existence of the Medical Council of Zambia established by the Medical and Allied Professions Act of 1977. The Health Professions Act No. 24 provides for the registration of health practitioners and regulation of their professional conduct; provides for the licensing of health facilities and the accreditation of health care services provided by health facilities; and provides for the recognition and approval of training programmes for health practitioners.

Following the issuance of the guidelines for introduction of licensing examinations for health professionals registered with the Health Professions Council of Zambia, this bulletin provides an outline of the core competencies and minimum standards for registrants who have completed the Diploma in Food and Nutrition or equivalent seeking registration to practice as a nutrition technologist in Zambia.

2.0 EXIT EXAMINATIONS AND AWARD OF THE DIPLOMA IN FOOD AND NUTRITION BY TRAINING INSTITUTIONS

Training institutions, private or public, approved by the Health Professions Council of Zambia are mandated to examine and graduate their students under their own seal and authority as prescribed by the HPCZ act number 24 of 2009. The Diploma in Food and Nutrition is also designated as a pre-service diploma qualification for Bachelor of Science in Human Nutrition and Food Science and Technology. Accordingly, a holder of this qualification will be required take and pass the HPCZ licensing examination to qualify for registration with the Council as a Nutrition Technologist.

3.0 LICENSURE EXAMINATIONS BY THE HEALTH PROFESSIONS COUNCIL OF ZAMBIA

A person shall not practice as a health practitioner, unless that person is registered as a health practitioner in accordance with the Health Professions Act No. 24 of 2009. In the exercise of its functions under this Act, the 2nd Council and the 3rd Council of the Health Professions Council of Zambia instituted Licensure Examinations to help maintain standards given the emergence of multiple private and public training institution. This “Bulletin of Information on the Core Competencies and Minimum Standards for the Licensing Examinations for Medical Practitioners to Work in Zambia” binds all parties regulated under this Act. Examination fees for licensure examinations, as prescribed by the Council, are payable to the Health Professions Council of Zambia as part of the eligibility to sit licensing examinations.

The HPCZ Licensing Examination assesses a medical practitioner’s ability to apply knowledge, concepts, and principles, and to demonstrate fundamental patient-centered skills, that are important in health and disease and that constitute the basis of safe and effective patient care. The HPCZ Licensing Examination includes, but is not limited to, theoretical and practical examinations which complement each other. No component is a stand-alone in the assessment of readiness for medical practice in Zambia.

The candidate will be assessed under three domains, namely:-

- Knowledge,
- Skills
- Attitude.

The above domains will be assessed by means of a theory exam comprising of multiple choice questions followed by a composite objective structured clinical examination (OSCE).

The six **subject areas** (assessed under all three learning domains) for Nutrition Technologist in Zambia are listed in the table below. The table also shows the courses that comprise each subject area:

1. Human Nutrition
2. Nutrition Communication
3. Food science
4. Public Health and Nutrition
5. Dietetics/clinical nutrition
6. Food Service systems management

Other subject areas prescribed by the curriculum such Research will only be assessed as cognitive domain in the theory paper. The overall expected outcomes of the Nutrition Technology licensure examination is to ensure that the candidate will meet the minimum expectations for the role in the health sector.

4.0 COMPETENCE OUTCOME GUIDELINES

The curriculum must identify attributes in each educational domain (knowledge, skills and attitude) and present them to guide student learning and assessment by examiners. HPCZ directs Nutrition Technologists to be compassionate and empathetic in caring for patients and to be trustworthy and respectful in all their professional dealings. Nutrition Technologists have a responsibility to provide nutritional care that enhances the lives and health of the patients that have been entrusted to them. Below are the overall outcomes the graduate nutrition technologist is expected to exhibit:

- a. **Knowledge:** demonstrates knowledge sufficient to ensure safe practice
- b. **Communication:** demonstrates effective and appropriate skills in listening and communicating information, advice, education and professional opinion to individual, groups and communities
- c. **Collection, analysis and assessment of nutrition/health data:** Collects, organises and assesses data relating to the health and nutritional status of individuals, groups and populations
- d. **Individual Case Management:** Manages client-centred nutrition care for individuals
- e. **Community and Public Health Nutrition and Advocacy for Food Supply:** Plans, implements and evaluates nutrition programs with groups, communities and populations as part of a team

- f. **Food Service Management:** Manages components of respective food service systems to provide safe and nutritious food which meet both nutrient and meal appropriateness standards

- g. **Research and Evaluation:** Integrates research and evaluation principles into practice for informed operational processes, and also participates in adding to the body of scientific knowledge, nutrition, health and wellness even though it may be in very basic ways.

- h. **Management and organisation:** Applies principles of management and systems in the provision of nutritional services, programs and products to individuals, communities and organizations.

- i. **Professionalism, advocacy, innovation and leadership:** Demonstrates a professional ethical and entrepreneurial approach, advocating for excellence in nutrition and dietetics

5.0 SPECIFIC CURRICULUM OUTCOMES (KNOWLEDGE, SKILLS AND ATTITUDE)

OUTCOME 1: KNOWLEDGE

Competence	Outcome
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<p>Integration of knowledge of food, food systems, human nutrition and dietetics in the provision of nutrition services</p>	<ol style="list-style-type: none"> 1. Discusses concepts in food science related to nutrition 2. Describes the chemical composition and properties of foods 3. Describes the nutritional value of foods 4. Explains the principles of food processing and preservation 5. Describes how processing and preservation can affect the nutritional value of foods 6. Explains the principles of food hygiene, quality and safety 7. Describes the principles that govern food laws and regulations 8. Define dietetics and related concepts 9. Describe what nutrition assessment is and the methods that can be employed 10. Describe the diet therapy in management of health conditions/disease 11. Explain what public health nutrition is 12. Explain the relationship between health and public health nutrition 13. Define the concepts of epidemiology 14. Describe the role of nutrition in Health and disease 15. Describe the management of severe acute malnutrition in public health 16. Describe growth monitoring and promotion as a child survival strategy 17. Describe water and sanitation in relation to public health 18. Describe common nutrition related non communicable diseases in Zambia 19. Explain the role of primary health care in nutrition 20. Explain the role of nutrition in the health of the community 21. Defines and describes basic human nutrition 22. Identifies food groups and their uses in human nutrition 23. Describes link between nutrition, health and agriculture 24. Describes the concepts and uses of nutrient recommended daily intake and food composition tables 25. Describes nutrient considerations at critical points in the life cycle 26. Describes the nutritional considerations in different emergency situations 27. Perform nutrition screening of individual patients/clients 28. Assess nutritional status of individual patients/clients with health conditions addressed by health promotion/disease
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	<p>prevention activities or uncomplicated instances of chronic diseases of the general population</p>
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Integrates of Behavioral and social science in the provision of nutrition service	<ol style="list-style-type: none"> 1. Define the concepts of health, nutrition education, health education and health promotion 2. Described the determinants of health 3. Decried the ethics of health and behavior change 4. Describe the theoretical frameworks for health promotion and behavior change 5. Define behavior change communication 6. Explain the basic concepts of micro and macroeconomics 7.
Integrates business and management principles in the provision on nutrition service	<ol style="list-style-type: none"> 1. Describes the principles of food service for specific population groups 2. Describes management of available human and other resources 3. Describes key entrepreneurship skills
Integrates of Physical, biological and chemical (biomedical) sciences in the provision of nutrition service	Uses knowledge from the Biological and biochemical sciences in the provision of nutrition service
Integrates knowledge of professional, organizational and legislative requirements in the provision of nutrition service	Explains on and shows a systematic understanding of the relevant legislative requirements related to a safe nutrition professional service

Demonstrates understanding of scientific information and research related to nutrition science	<ol style="list-style-type: none">1. Applies nutrition science and research evaluation findings to practice2. Demonstrates knowledge of the research process, using appropriate research methods, ethical processes and procedures and statistical analyses3. Demonstrates capacity to evaluate practice aa per reference standards
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OUTCOME 2: SKILLS

Competence (Skills)	Outcome
<p>1. Applies the nutrition care process based on the expectations and priorities of individuals, groups, communities or populations</p> <p>2. Respects the unique emotional, social, cultural, religious, ecological needs of individuals, groups, communities or populations</p>	<ol style="list-style-type: none"> 1. Ability to use the food composition table 2. Ability to estimate energy and nutrient requirements at different points of the life cycle. 3. Ability to assess patients physical measurement and appearance, referring to validated reference standard measure to determine the nutrition status 4. Ability to assess patient’s nutrient needs in relation to health status 5. Ability to demonstrate counselling skills in nutrition care and support 6. Ability to design dietary advice in accordance with the patients’ needs 7. Recognizes social, cultural, religious influences on food selection and provision of nutrition intervention 8. Ability to monitor and evaluate the effectiveness of the instituted nutrition therapy 9. Ability to identify the nutrition problems of a community 10. Ability to suggest appropriate nutrition interventions
<p>Demonstrate ability to communicate effectively using multiple means</p>	<ol style="list-style-type: none"> 1. Ability to identify appropriate target groups for various nutrition education and promotion activities 2. ability to identify appropriate messages and channels of communication 3. Ability to identify problems, plan, implement and evaluate nutrition education programme using participatory approaches 4. Ability to identify the factors which influence education using the education framework 5. Ability to plan a nutrition education and health promotion session

<p>Integrate business and management skills principles and skills in the provision of foodservice oriented nutritional services deliverables</p>	<ol style="list-style-type: none"> 1. Ability to analyse nutritional needs of individuals/target groups for meal appropriateness; e.g observance of diet order, age, religious and cultural specifications 2. Ability to set nutritional and menu standards 3. Ability to plan standardized patient specific menus, and set operational standards 4. Ability to evaluate food/meal appropriateness (menu appraisal) for its impact on nutritional status and clinical signs and symptoms 5. Ability to manage all operational elements of the foodservice production process; planning, purchasing, inventory management, production, etc 6. Ability to develop and implement a business plan
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OUTCOME 3: ATTITUDE

Competence (Attitude)	Performance Criteria
Demonstrates interpersonal skills, professional autonomy and accountability	<ol style="list-style-type: none">1. Uses appropriate communication styles to meet the needs of respective stakeholders2. Ability to write and speak clearly, concisely and professionally using professional terminologies3. Demonstrates appropriate skills in listening and communicating information; nutrition counselling and education, professional opinion to individuals, groups and communities
Demonstrate a professional, ethical approach consistent with professional excellence in Nutrition and Dietetics	<ol style="list-style-type: none">1. Establishes trust and rapport with stakeholders2. Adherence to ethical codes of conduct (honesty, respect and confidentiality)3. Demonstrates knowledge of, and skills consistent with professional and organizational codes of conduct4. Demonstrates knowledge of, and skills consistent with professional and organizational code of ethics5. Demonstrates safe practice6. Demonstrates cultural competency
Demonstrates knowledge of quality assurance of nutrition and dietetic practice	<ol style="list-style-type: none">1. Demonstrates knowledge in appraisals, performance reviews and assessments2. Demonstrates awareness of ones limitations in competencies and takes appropriate action3. Demonstrate awareness of what and how a safe environment can be established to minimise risks of failure to respect human rights, hazards and infection control4. Be an effective mentor and teacher to dietetic students and colleagues

6.0 BLUE PRINT FOR WEIGHTING

7.0 CORE PROCEDURES

Competency Domain	Percentage
Theory Exam (50%)	50
<ul style="list-style-type: none"> Nutrition (Food, food systems, human nutrition and dietetics) 	20
<ul style="list-style-type: none"> Communication 	10
<ul style="list-style-type: none"> Management (business management, food service management, marketing, resource management) 	5
<ul style="list-style-type: none"> Research 	5
<ul style="list-style-type: none"> Physical, chemical and biological sciences 	4
<ul style="list-style-type: none"> Social sciences (sociology, psychology, economics) 	4
<ul style="list-style-type: none"> Professionalism issues 	2
Total	50
Practical Exam (50%)	50
<ul style="list-style-type: none"> Nutrition (Integration of food, food systems, human nutrition and dietetics in practice) 	30
<ul style="list-style-type: none"> Communication practice 	10
<ul style="list-style-type: none"> Management 	10
Total	50

8.0 CORE PROCEDURES

- Nutrition screening
 - Weight taking
 - Height/length taking
 - Upper Mid arm circumference

- Hip and waist circumference
 - Calculation of BMI and waist hip ratio
 - Medical charting as per elements of the work flow of respective Nutrition Care Process format, e.g NCP_ADIME, SOAPIE
2. Nutrition assessment
- Diet history taking
 - Calorie intake calculation
 - Application of the ‘ABCD’ nutritional assessment protocol
 - Conducting basic nutritional diagnoses such as nutritional status classifications as per anthropometric data indices such as BMI and MUAC
3. Nutrition intervention
- Development of a nutrition care plan
 - Setting nutritional goals
 - Counselling
 - Nutrition and health education
 - Diet formulation
 - Calorie requirement calculation
4. Monitoring and evaluation

9.0 REFERENCE MATERIALS FOR DIPLOMA IN NUTRITION

Competence units	Prescribed books
Food Science	<ol style="list-style-type: none"> 1. Vaclavik, A. V & Christian, W. E. <i>Essentials of Food Science</i>. 3rd Edition. Springer Publishers. ISBN -10: 0387699392; ISBN -13: 978-0387699394 2. Murano, P. <i>Understanding Food Science and Technology</i>. 1st Edition. Brooks Cole Publishers. ISBN -10: 053454486X; ISBN -13: 978-0534544867 3. Belitz, D. H., Brosch, W. and Schieberie, P. <i>Food Chemistry</i>. 4th Edition. Springer Publishers. ISBN -10: 354069935X; ISBN -13: 978-3540699354
Dietetics	<ol style="list-style-type: none"> 1. Begum, M' R. (2008). <i>A Text Book of Foods, Nutrition and Dietetics</i>. 3rd Revised Edition. ISBN: 978 81 207 37143. 2. Gaissler, C. And Powers, H. (2005). <i>Human Nutrition</i>. 11th Edition, Elsevier churchhill Livingstone, London.

Human Nutrition	<ol style="list-style-type: none"> 1. Gaissler, C. And Powers, H. <i>Human Nutrition</i>. 11th Edition, Elsevier Churchhill Livingstone, London.\ 2. Whitney, E. and Rolfes, S.R., 2007. <i>Understanding nutrition</i>. Cengage Learning. 3. Gibney, M.J., Vorster, H.H. and Kok, F.J. eds., 2002. <i>Introduction to human nutrition</i> (pp. 100-113). Oxford: Blackwell Science.
Entrepreneurship, and Food Service Management	<ol style="list-style-type: none"> 1. Kent, C. A. <i>Encyclopedia of Entrepreneurship</i>. Englewood Cliffs, New Jersey: Prentice-Hall. 2. Swayne, C and Tucker, W. <i>The Effective Entrepreneur</i>. Morristow, New Jersey. General Learning Press. 3. Sari, P.D. <i>Managing Food and Nutrition Services for Culinary, Hospitality and Nutrition Professionals</i>, 1st Edition. Jones and Bartlett Publishers. ISBN- 10: 0763740640, ISBN – 13: 978-0763740641
Nutrition education and Health Promotion	<ol style="list-style-type: none"> 1. Contento, Isobel. (2007). <i>Nutrition Education: Linking Research, Theory and Practice</i>. Jones & Bartlett Learning. r.l'i:;.r. 2. Hubley, J. (1993). <i>Communicating health: An Action guide to Health Education and Health Promotion</i>. Macmillan: London. 3. Holli, B., Beto, J, Calabrese, R. Maillet, O'Sullivan, J. (2008) <i>Communication and Educational Skills for Dietetics Professionals</i>. 5th Edition. Lippincott Williams & Wilkins Publishers. ISBN -10: 018 1114340; ISBN -13:978-0781714345 ; ,l' , 4. Corento, I. R. (2007). <i>Nutrition Education: Link search, Theory and Practice</i>. 1st Edition. Jones & Bartlett Learning. Wardsworth Publishing: ISBN -10: 0763138069; ISBN: ;{i: 9j8-0].63j38068
Community nutrition and Food security	<ol style="list-style-type: none"> 1. Barrie, M. (2000). <i>Design and concepts in Nutritional Epidemiology</i>. Margetts and Michael Nelson Edition. ISBN: 2. Edelstein, R. and Edelstein, S. (2005). <i>Nutrition in Public Health: Handbook for developing programmes and service</i> 3. Scot and Duncan, C. (2002). <i>Demography and Nutrition: Evidence from historical and contemporary Populations</i>. Kindle Edition. Wily- Blackwell. ISBN: 130763738068 4. Lee, R. D. and Nieman, D. C. (2009). <i>Nutritional Assessment</i>. 5th Edition. McGraw-Hill Science/EngineeringAvlath. ISBN -10: 001337556X; ISBN -1.3i:978-0073315564. 5. Heymann, D. L. (2008). <i>Control of Communicable Diseases Manual</i>. 19th Edition American Public Health Association. ISBN 978-0-87553-189-2; ISBN 978-0-87553-190-8; ISBN-10: 0-87553-1 89-X 6. WHO Manual (2000). <i>Management of Severe Malnutrition</i> 7. FANTA Manual (2009). <i>Community Management of Malnutrition</i>

