ZIMBABWE

MINISTRY OF PRIMARY AND SECONDARY EDUCATION

FOOD TECHNOLOGY AND DESIGN SYLLABUS

FORMS 5 - 6

2015 - 2022

Curriculum Development and Technical Services
P. O. Box MP 133
Mount Pleasant
Harare

ACKNOWLEDGEMENTS

Ministry of Primary and Secondary Education would like to acknowledge the following for their valued contribution:

- The National Food Technology and Design Syllabus Panel
- Zimbabwe School Examinations Council (ZIMSEC)
- Representatives from Colleges
- Ministry of Health and Child Care
- United Nations Educational Scientific and Cultural organization (UNESCO)
- United Nation Children's' Fund (UNICEF) for funding the programme

CONTENTS

1.0 PREAMBLE

1.1 INTRODUCTION

Food Technology and Design is concerned with food, its nutritive value, analysis, design, processing and application of knowledge and skills to solve real life problems. It instills acquisition of practical and theoretical skills to develop a sound processing industry hence improving food security for the nation through the learner. The syllabus recognises food technology and design as a tool for inclusivity that encourages learners to appreciate diversity. This form 5 – 6 learning area helps learners to conceptualise, innovate and be artistic in resource management, self- reliance, indigenisation and enterprising. This learning area leads to further studies in food related fields such as food service, health and food science

1.2 RATIONALE

Food Technology and Design is the study of Food Science, Technology and Design. It imparts technological skills and design of advanced food processing skills. Zimbabwe has an agro-based economy hence, the syllabus seeks to promote a positive attitude towards indigenous health food use of advanced Technology in processing, storage and utilisation of food. It enables learners to acquire enterprising skills, indigenous and non-indigenous methods of food preparation and service. It develops in learners acceptable norms and values of the society (Unhu/Ubuntu/Vumunhu).

1.3 SUMMARY OF CONTENT

Food Technology and Design will cover theory and practical activities in areas such as nutrition, preservation, packaging, safety, security and storage of food. This two year learning area seeks to develop learners through Macro and Micro Nutrients Human Physiology, diet and health, Food production cycle, Advanced food preparation and service, Indigenous and modern food technology and designs, Food security and Enterprise.

1.4 ASSUMPTIONS

It is assumed that learners:

- have knowledge of nutrition in relation to an individual's health
- are able to choose, use and care for various pieces of equipment
- acquired knowledge of food technology, nutrition, food preparation and service.
- have knowledge of both indigenous and non-indigenous foods.
- practice enterprising skills in food preparation and service

1.5 CROSS - CUTTING THEMES

This course will help learners to develop an appreciation of:

- Gender sensitivity
- Sexuality, HIV/AIDS Education
- Heritage studies
- Financial literacy
- Disaster risk management
- Human rights
- Children's rights and responsibilities
- Environmental issues
- Guidance and counselling
- Food security
- Collaboration
- ICT

1.6 PRESENTATION OF SYLLABUS

This Form 5 and 6 Food Technology and Design syllabus is one document which consists of the preamble, rational, summary of content, assumptions, cross cutting themes, aims, objectives, topics, methodology, time allocation, scope and sequence and content matrix. Assessment is in theory and practical activities.

2.0 AIMS

The syllabus aims to help learners to:

2.1 acquire scientific concepts of Food Technology and Design

2.2 exhibit an understanding of Human Physiology, diet and health

2.3 develop scientific knowledge and appreciation of the techniques and processes used in food production and the resultant changes thereof, by encouraging innovativeness in product development.

2.4 preserve Zimbabwean Culture and Heritage through Food Technology and Design

2.5 foster skills in resource management, self-reliance and enterprising.

3.0 OBJECTIVES

By the end of the course, learners should be able to:

3.1 demonstrate an understanding nutritional concepts in Food Technology and Design
3.2 analyse the scientific concepts in Food Technology and Design
3.3 analyse human physiology.
3.4 justify the relationship between diet and health
3.5 show an understanding of skills used in food processing and production
3.6 demonstrate innovativeness in product development using different techniques.
3.7 apply skills in preserving Zimbabwean culture in food and Technology Design
3.8 manage indigenous dishes on a commercial basis.
3.9 demonstrate skills in enterprising, self-reliance and resource management
3.10 design a working gadget to demonstrate skills acquisition in Food Technology and Design
3.11 apply enterprising skills, self-reliance and resource management

4.0 METHODOLOGY AND TIME ALLOCATION

4.1 TIME ALLOCATION

At least 8 to 10 periods of 35 – 40 minutes per week for form 5-6 should be allocated per class of not more than 15 learners. Four consecutive periods should be allocated for practicals.

4.2 METHODOLOGY

The syllabus requires the use of the learner centered approach where learners are actively involved in the learning process and the teacher becomes a facilitator. The following methods should be considered:

- Demonstration
- Educational tours
- Discussions
- Debates
- Group work
- Experiments
- Role play
- Simulation
- Projects
- Case study
- Presentation
- Festivals
- Drama
- Research/investigation

NB: Teachers are encouraged to apply orthodidactic principles where possible.

5.0 TOPICS

5.1 Macro and Micro Nutrients
5.2 Human Anatomy, Physiology, diet and health
5.3 Food production cycle
5.4 Advanced food preparation and service
5.5 Indigenous and modern food technology and designs
5.6 Food security
5.7 Enterprising

6.0 SCOPE AND SEQUENCE

SUB-TOPIC	FORM 5	FORM 6
6.1 MACRO AND MICRO NUTRIENTS - **Nutrients**	• Proteins • Carbohydrates • Lipids • Vitamins • Mineral Elements • Water • Energy	• Nutrient Interaction • Effects of Processing
6. 2 HUMAN PHYSIOLOGY, DIET AND HEALTH - **Physiology**	• Human anatomy and physiology • Digestion • Diet - Nutritional needs in the life cycle - Meal designing • Indigenous and contemporary nutritional practices. • Health - Nutritional disorders	• Recommended Dietary Intake • Metabolism of nutrients

SUB-TOPIC	FORM 5	FORM 6
6.3 FOOD PRODUCTION CYCLE - **Food sources and composition**	• Milk and milk products • Cereal and cereal products • Fish • Meat and Poultry • Eggs • Fruits and vegetables • Fats and oils • Legumes	• Food additives • Food packaging • Food labelling • Convenience foods
- **Food spoilage**	• Contamination • Natural decay	
- **Preservation of food and nutrients**	• Indigenous methods of preservation • Modern methods of preservation	
- **Processing cycle**	• Transportation • Milling • Processing • Storage	
6.4 ADVANCED FOOD PREPARATION AND SERVICE - **Indigenous food preparation and service**	• Indigenous and non-indigenous beverages • Confectionaries • Indigenous and non-indigenous menus • Styles of food service	• Indigenous and non-indigenous menus • Commercial menu designing. • Therapeutic diets • Styles of food service

SUB-TOPIC	FORM 5	FORM 6
6.5 INDIGENOUS AND MODERN FOOD TECHNOLOGY AND DESIGN - **Gadget designing**	• Processing and preserving foods. - Indigenous • Gadget design - preparation or service • Food products design • Product line extension • Health and Safety Procedures	• Gadget design • Product line extension • Health and Safety Procedures
6.6 FOOD SECURITY - **Food legislation policies**	• Indigenous and non-indigenous agricultural practices • National land policies • Food Security - causes and effects • Factors threatening food security.	• National and international food and food legislation policies
6.7 ENTERPRISING - **Food system management**	• Food system management - Intellectual property	• Food system management

7.0 COMPETENCE MATRIX

7.1 FORM 5

TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (ATTITUDE SKILLS AND KNOWLEDGE)	SUGGESTED LEARNING ACTIVITIES AND NOTES	
7.1.1 MACRO AND MICRO NUTRIENTS - **Proteins**	• illustrate the protein structure • classify proteins chemically • explain the nature of proteins • identify presence of protein in food stuffs. • examine the chemical and physical properties of proteins. • analyse the functions of proteins	• Chemistry of protein • Functions of proteins	• Drawing the structure of protein • Distinguishing proteins • Experimenting on the presence of protein. • Discussing methods of assessing protein quality • Researching on the functions of proteins • Presenting functions of protein • Designing protein products • Preparing protein products	• Jaws software • Perkins braille • Slates and stylus • Resource person • Electronic media • Laboratory apparatus • Gadgets

- **Carbohydrates**	• classify carbohydrates chemically • analyse the chemical structures of carbohydrate • examine the chemical properties of carbohydrates • evaluate the effects of moist and dry heat on sugars and starches • identify artificial sweeteners • analyse the functions of carbohydrates • use carbohydrates foods to produce a marketable product	• Classification of carbohydrates • Chemical structures of Carbohydrates • Chemical properties of carbohydrates • Effects of moist and dry heat on sugars and starches • Characteristics of artificial sweeteners • Functions of carbohydrates • Marketable carbohydrate such as sweet potato jam	• Identifying classes of • carbohydrates • Explaining the chemical structure of carbohydrates • Drawing the chemical structure • Differentiating the chemical structures of carbohydrates • Comparing chemical properties of carbohydrates through experimenting • Assessing the effect of moist and dry heat on sugars and starches • Researching on degree of carcinogenicity artificial sweeteners and give feedback • Discussing the functions of carbohydrates • Preparing marketable carbohydrate products	
- **Lipids**	• classify lipids according to physical structures. • draw the chemical structure of lipids. • identify the chemical reactions of lipids. • describe the composition of lipids • state the functions of lipids • describe the physical reactions of lipids	• Classification of lipids • Chemical structure of lipids • Chemical reactions of lipids such as: - hydrogenation - saponification • Composition of lipids • Functions of lipids • Physical reactions of lipids	• Identifying physical structures of lipids • Illustrating the chemical structures of lipids • Experimenting on the chemical reactions of lipids. • Analysing the composition of lipids • Assessing the functions of lipids. • Explaining the physical reactions of lipids	

	• identify the reference value for lipids .	• Reference values for lipids.	• Calculating the reference value for lipids. • Designing a marketable product using lipids	
- **Vitamins**	• discuss sources of water and fat soluble vitamins. • analyse the functions of specific vitamins • identify vitamin requirements for different age groups. • examine presence of vitamins in indigenous and non-indigenous foods	• Sources of water and fat soluble vitamins • Functions of specific vitamins • Vitamin requirements for different age group. • Testing for presence of vitamins in foods	• Outlining sources for specific vitamins • Discussing functions of specific vitamins • Experimenting the presence of vitamins in food. • Designing marketable products from fruits and vegetables whilst conserving vitamin content.	
- **Mineral Elements**	• discuss sources of major and trace mineral elements • analyse the functions of specific mineral elements • state the dietary requirements for different age groups. • identify presence of mineral elements in indigenous and non-indigenous foods.	• Sources of major mineral and trace elements. • Functions of specific mineral elements • Individual dietary requirements. • Testing for presence of mineral elements in foods.	• Outlining sources for specific mineral elements. • Discussing functions of specific mineral elements • Experimenting on the presence of mineral elements in food. • Designing a marketable product rich in mineral elements.	
- **Water**	• illustrate the chemistry of water	• Chemistry of water - solubility of water - hard and soft water - ionization	• Drawing chemical structure of water • classifying water • Discussing the causes of hardness and softness of	

	• explain purification of water • outline recommended dietary allowance of water. • analyse functions of water	• Purification • Water dietary allowance • Functions of water	water • Experimenting on purification • Stating recommended dietary allowance of water. • Outlining functions of water • Designing branded marketable water products.	
- **Energy**	• assess recommended dietary allowance of energy in life cycle. • determine energy value • • discuss uses of energy • interpret energy nutritional guidelines. • analyse factors affecting energy needs.	• Energy in life cycle • Energy value • Uses of energy • Energy nutritional guidelines • Energy needs.	• Illustrating recommended dietary allowance of energy in life cycle • Analysing energy values • calculating energy value • Illustrating use of energy • Outlining energy nutritional guidelines. • Explaining factors affecting energy needs	

TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (ATTITUDE SKILLS AND KNOWLEDGE)	SUGGESTED LEARNING ACTIVITIES AND NOTES	SUGGESTED RESOURCES
7.1.2 HUMAN PHYSIOLOGY, DIET AND HEALTH - **Human Anatomy and Physiology**	• illustrate human anatomy and physiology • explain food digestion and nutrient absorption	• Anatomy and physiology • Food digestion and nutrient absorption	• Labeling human anatomy. • Discussing food digestion and nutrient absorption	• Jaws software • Perkins braille • Slates and stylus • Resource person • Electronic media • Laboratory apparatus
- **Diet and Health**	• examine the nutritional needs in the life cycle. • design meals for individuals in the life cycle using indigenous and contemporary foods. • analyse the dietary practices that lead to nutritional disorders	• Nutritional in life cycle • Meals for individual needs in the life cycle - indigenous - contemporary • Dietary practices that lead to nutritional disorders.	• Identifying the nutritional needs in the life cycle. • Preparing and serving meals for individuals in the life cycle using indigenous and contemporary foods. • Researching on dietary practices that lead to nutritional disorders.	

TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (ATTITUDE SKILLS AND KNOWLEDGE)	SUGGESTED LEARNING ACTIVITIES AND NOTES	SUGGESTED RESOURCES
7.1.3 FOOD PRODUCTION CYCLE - **Food Production cycle**	• outline sources of various foods. • analyse the stages of food production cycle.	• Sources of various foods. • Production cycle	• Discussing sources of food • Identifying food production cycles of milk, fish, meat, eggs, legumes, fruits, vegetables, fats and oils.	• Jaws software • Perkins braille • Slates and stylus • Resource person • Electronic media • Laboratory apparatus • Educational tours
- **Food Spoilage**	• analyse the causes and effects of food spoilage	• Causes and effects of food spoilage	• Identifying food spoilage • Discussing the causes and effects of food spoilage • Experimenting on food spoilage	
- **Food Preservation**	• analyse the food preservation methods • apply appropriate preservation methods during food processing at every production stage.	• Food preservation - indigenous methods - modern methods	• Preserving using indigenous methods and modern methods. • Selecting a relevant method of preservation to be applied at every stage in food production. • Applying suitable preservation method to each food product.	

TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (ATTITUDE SKILLS AND KNOWLEDGE)	SUGGESTED LEARNING ACTIVITIES AND NOTES	SUGGESTED RESOURCES
7.1.4 ADVANCED FOOD PREPARATION AND SERVICE - **Beverages**	• identify indigenous and non-indigenous beverages. • prepare indigenous and non-indigenous beverages • plan marketing strategies of beverages.	• Beverages. - indigenous - non-indigenous • Production • Marketing	• Discussing indigenous and non-indigenous beverages • Demonstrating the preparation and serving of indigenous and non-indigenous beverages. • Packaging beverage • Branding beverage • Labeling beverages • Outlining factors on marketing. • Standardizing beverage according to legislation • Educational tours/Trips	• Realia • Electronic media • Braille charts • Resource person
- **Confectionaries**	• analyse various confectionaries • design confectionaries • cost identified confectionaries. • select appropriate packaging material • label products according to legislation • calculate appropriate prices	• Types of confectionaries • Packaging • Labelling • Pricing	• Discussing various confectionaries on the market • Designing and preparing confectionaries • Calculating expenditure on identified confectionaries • Packaging confectionaries • Branding confectionaries • Labeling confectionaries • Outlining factors on marketing. • Standardizing confectionaries according to legislation	
- **Menus**	• discuss various menus • design, plan, prepare	• Types of indigenous and non-indigenous	• Demonstrating correct service of each menu.	

	and service indigenous menus. • draw, plan, prepare and serve non-indigenous dishes. • assess ways of using left over food	menus such as: - a'la carte - table d hote - cycle menu • Food economy and health standards	• Preparing, cooking and serving indigenous and non-indigenous menus for breakfast/lunch/dinner • Rechauffeing'	
- **Styles of food service**	• explain various styles of food service	• Plate service • Buffet service • Table service • Silver service	• Demonstrating various styles of food service	

TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (ATTITUDE SKILLS AND KNOWLEDGE)	SUGGESTED LEARNING ACTIVITIES AND NOTES	SUGGESTED RESOURCES
7.1.5 INDIGENOUS AND MODERN FOOD TECHNOLOGY AND DESIGN - **Indigenous methods of preservation**	• explain various methods of food preservation	• Heat processing • Cold processing • Dehydration • Concentration • Fermentation	• Illustrating various ways food can be preserved.	• Jaws software • Perkins braille • Slates and stylus • Resource person • Electronic media • Laboratory apparatus
- **Gadget Design**	• design working gadget ideal for food preparation or service.	• Principles of design	• Constructing working gadget suitable for food preparation service	
- **Food product design**	• plan, prepare and serve various food products to meet clients needs.	• Stages of food products development	• Experiments on various food products until acceptable on the market.	
- **Product line extension**	• analyse existing products and modify them to meet clients needs.	• Stages of product line extension • Consumer rights	• Experiment on various products identified	
- **Health and Safety Procedures**	• explain national and international policies on food and food legislation	• National and international policies on food and food legislation.	• Outline national and international policies and food legislation.	
7.1.6 FOOD SECURITY	• compare indigenous and non-indigenous agricultural practices • demonstrate maintenance of a nutritional garden • analyse factors affecting food security.	• Indigenous and non-indigenous agricultural practices • Factors affecting food security. • Effects of food security on the nation • Ensuring food security	• Researching on indigenous and non-indigenous agricultural practices. • Managing a nutritional garden • Presenting factors affecting food security.	• Jaws software • Perkins braille • Slates and stylus • Resource person • Electronic media • Laboratory apparatus
	• assess effects of food security nationwide • suggest ways of ensuring food security for the nation	for the nation.	• Discussing effects of food security on the nation and ways of ensuring food security for the nation.	

TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (skills, attitude and knowledge)	SUGGESTED LEARNING ACTIVITIES AND NOTES	SUGGESTED RESOURCES
7.1.7: ENTERPRISING - **Food systems management**	• survey on Food Technology and Design businesses • write business project proposal • specialise on selected business entities • organise food and gadget exhibition	• Costing • Marketing skills • Project proposal • Management of Food Technology and Design projects • Events management - food and gadget exhibition - festival	• Researching on Food Technology and Design businesses • compiling business project proposal • Managing the business aspect of food service • Exhibiting at annual science sport, arts and cultural festival	• Jaws software • Perkins braille • Slates and stylus • Resource person • Electronic media • Laboratory apparatus

7.2 FORM 6

TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (skills attitude and knowledge)	SUGGESTED LEARNING ACTIVITIES AND NOTES	SUGGESTED RESOURCES
7.2.1: MACRO AND MICRO NUTRIENTS - **Nutrient Interaction**	• explain the effects of divalent mineral elements and fats on the absorption of other nutrients • analyse nutrient interaction	• Nutrients interaction	• Researching on nutrient interaction • Discussing how nutrient interaction influence food choices • Assessing importance of nutrient interaction in the diet planning	• Jaws software • Perkins braille • Slates and stylus • Resource person • Electronic media • Laboratory apparatus
- **Effects of processing**	• identify effects of processing on macro and micro nutrients • analyse ways of minimising adverse effects of processing macro and micro nutrients. • investigate the amount of nutrients in food before and after processing. • observe enzymatic reaction	• Macro and micro nutrients • Oxidation and enzymatic reaction	• Researching on effects of processing on macro and micro nutrients • Visiting production centres • Remedying adverse effects of processing on macro and micro nutrients • Experimenting on oxidation and enzymatic reaction	

TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (skills, attitude and knowledge)	SUGGESTED LEARNING ACTIVITIES AND NOTES	SUGGESTED RESOURCES
7.2.2: HUMAN PHYSIOLOGY, DIET AND HEALTH - **Reference Values**	• identify the reference values for macro and micro nutrients required in the life cycle. • analyze metabolic processes of nutrients	• Reference values for micro and macro nutrients in the life cycle.	• Researching on the reference values for macro and micro nutrients in the life cycle.	• Jaws software • Perkins braille • Slates and stylus • Resource person • Electronic media • Laboratory apparatus
- **Metabolism**	• relate metabolic disorders to unhealthy food choices.	• Metabolic processes • Metabolic disorders.	• Evaluating the metabolic processes of nutrients. • Analysing and evaluating food choices that lead to metabolic disorders.	
7.2.3 FOOD PRODUCTION CYCLE - **Food Additives**	• identify the indigenous and modern food additives. • analyse the functions of food additives • demonstrate use of additives in product manufacturing	• Indigenous and modern food additives • Functions of food additives • Legislation	• Making indigenous food additives • Experimenting using modern and indigenous food additives. • Applying legislation on product manufacturing	• Jaws software • Perkins braille • Slates and stylus • Resource person • Electronic media • Laboratory apparatus
- **Food packaging and labelling**	• discuss the appropriate food packaging materials used on different food types • design the label showing the contents of a package and its shelf life.	• Packaging materials - indigenous and modern - labelling - shelf life	• Designing indigenous and modern packaging materials • Creating labels for different indigenous and modern products.	
- **Convenience foods**	• design indigenous and modern convenience foods for marketing.	• Indigenous and modern convenience foods • Marketing strategies	• Developing convenience products using indigenous and modern foods for market	

TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (skills, attitude and knowledge)	SUGGESTED LEARNING ACTIVITIES AND NOTES	SUGGESTED RESOURCES
7.2.4: ADVANCED FOOD PREPARATION AND SERVICE - **Indigenous menus**	• design indigenous menus • appraise aesthetic value of indigenous designed menu	• Indigenous menu, design • Service of various menus prepared using indigenous methods - etiquette • Aesthetic value of food.	• Preparing, cooking and serving planned menus. • Garnishing prepared dishes • Decorating prepared dishes • Designing menu cards • Critiquing indigenous menu designs	• Electronic media • Realia • Journals • Charts • Braille textbooks
- **Non-indigenous menus**	• design non-indigenous menus • appraise aesthetic value of non-indigenous designed menus	• Non-indigenous menu design • Service of various menus prepared using non- indigenous methods - etiquette • Aesthetic value of food	• Creating menus. • Garnishing prepared dishes • Decorating prepared dishes • Designing menu cards • Critiquing non-indigenous menu designs	
- **Commercial menu design**	• design commercial menus • discuss marketing principles • analyse clientele needs and product viability • discuss business ethics	• Event management - enterprising - market research and analysis - costing - product distribution - business ethics	• Preparing commercial menus • Marketing commercial menus. • Using business ethics. • Managing a business entity	
- **Therapeutic Diets**	• design therapeutic diets • discuss medicinal value of herbs	• Special diets such as - diabetes - HIV AIDS - coronary heart diseases. - cancer • Therapeutic herbs	• Preparing therapeutic menus. • Serving therapeutic menus • Maintaining herbal garden • Using herbs as therapy	

- **Styles of food service**	• explain various styles of food service • discuss client management skills	• Table service • Silver service • Clientele management skills.	• Demonstrating various styles of food service • Applying clientele management skills	

TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (skills, attitude and knowledge)	SUGGESTED LEARNING ACTIVITIES AND NOTES	SUGGESTED RESOURCES
7.2.5: INDIGENOUS AND MODERN FOOD TECHNOLOGY AND DESIGN - **Gadget Design**	• construct a working gadget • justify the functions of a gadget • write gadget manual • examine intellectual property rights	• Working gadget • Functions of the gadget • Gadget manual • Intellectual property rights	• Assembling a working gadget • Displaying gadget • Critiquing functionality of gadget • Using gadget in food preparation or service • Compiling gadget manual • Applying intellectual property rights	• Electronic media • Realia • Journals • Charts • Braille material
- **Product line extension**	• analyse existing products and modify them • outline new development of product	• Product line extension - assessment - development	• Discussing stages of product line extension. • Evaluating of products • Explaining new development in products.	
- **Healthy and Safety procedures**	• apply food acts in product development • apply food legislation • explain food safety act in product development • analyse safety precautions • demonstrate safety precautions • assess disaster management • examine safety acts	• Reinforcement of food acts in new product development • Food legislation food • Hazards • Disaster management • Safety acts	• Discussing food acts in relation to new product development • Explaining food safety acts. • Discussing food legislation in relation to new product development. • Performing hazard drills • Carrying out disaster management workshops • Researching on safety acts	

TOPIC	LEARNING OBJECTIVES Learners should be able to:	CONTENT (skills, attitude and knowledge)	SUGGESTED LEARNING ACTIVITIES AND NOTES	SUGGESTED RESOURCES
7.2.6 FOOD SECURITY - **Food Legislation Policies**	• assess food legislation policies nationally and internationally for food security	• Food legislation policies - foods and food Standard Act of Zimbabwe - public Health Act - food control Act - agriculture Act • Role of the Consumer Council of Zimbabwe • Codex Alimentarius	• Researching on food legislation policies • Implementing food legislation policies in food marketing	• Electronic media • Realia • Journals • Charts • Braille textbooks
7.2.7: ENTERPRISING - **Food System Management**	• outline aspects of Intellectual Property in food technology and design • explain the structures and styles of management • demonstrate event management	• Intellectual Property in food technology and design • Structures and styles of management • Event management	• Planning a project • Discussing structures of management • Organizing and managing events.	• Electronic media • Realia • Journals • Charts • Braille material

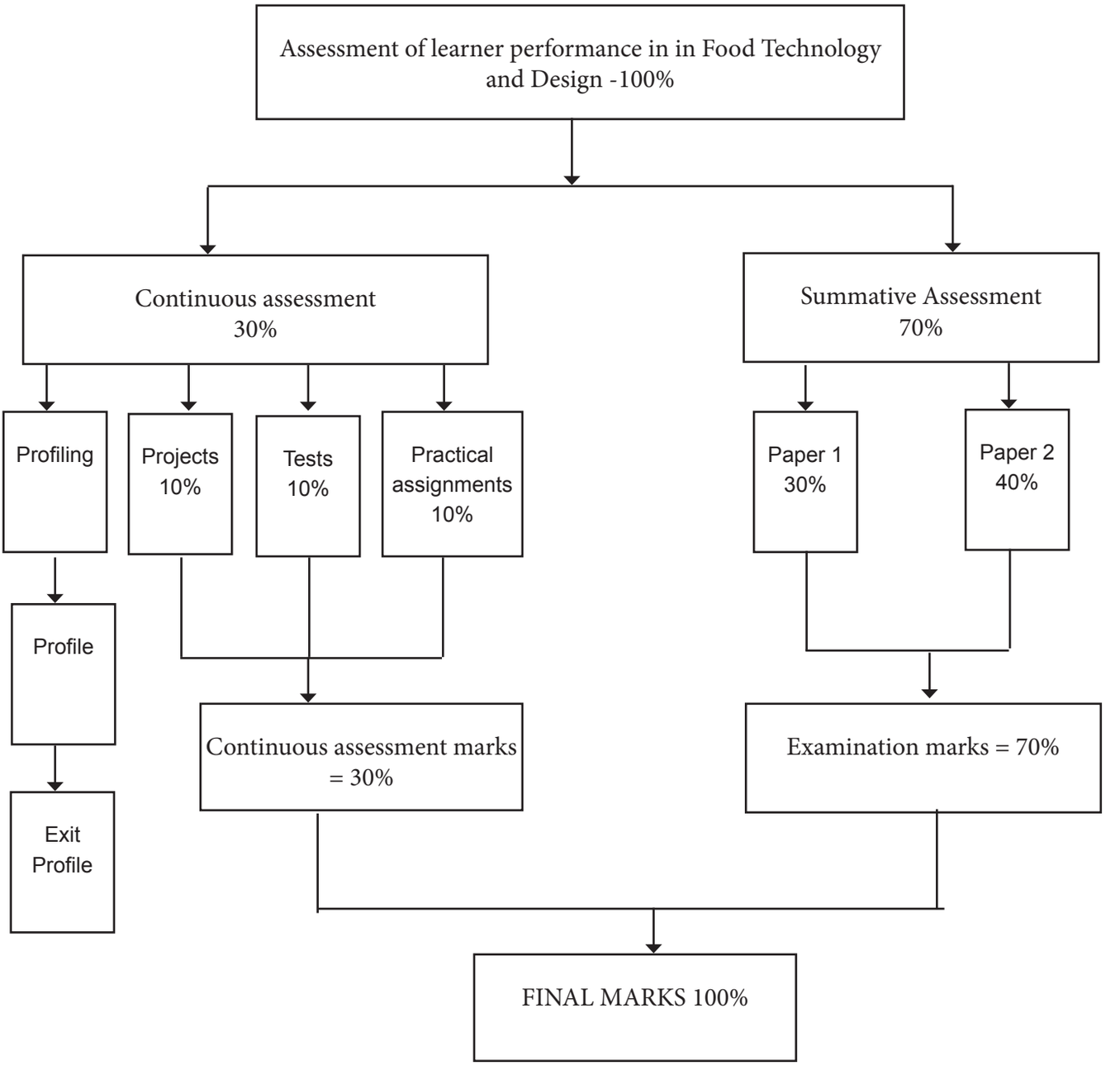
9.1 ASSESSMENT

The syllabus will be assessed in three components which are practical, theory and continuous assessment.

a) Assessment Objectives

By the end of the course, learners should be able to:

9.1.1 use terminology in Food Technology and Design
9.1.2 illustrate an understanding of the nature, composition and use of foods nutrients in food industry,
9.1.3 evaluate the nutritional needs of individuals throughout the life cycle
9.1.4 analyse metabolism in the human anatomy
9.1.5 identify causes, effects and prevention of nutrition-related problems in Zimbabwe and other countries
9.1.6 apply scientific principles of food preservation in Food Technology and Design
9.1.7 assess the processes and techniques involved in product designing and marketing
9.1.8 design therapeutic diets
9.1.9 apply principles of hygiene and safety precautions in the kitchen in handling food and care of the immediate environment,
9.1.10 identify microbial and chemical agents that affect food safety and hygiene
9.1.11 evaluate the environmental, cultural and socio –economic factors affecting food security
9.1.12 interpret observations, measurements and experimental data
9.1.13 evaluate Food Technology and Design products
9.1.14 apply management and organizational skills to food production, storage, preparation as well as the use of resources
9.1.15 demonstrate understanding of gender equity and equality in food related issues
9.1.16 evaluate implications of Legislative Acts on national and international food security
9.1.17 identify careers and enterprise opportunities in Food Technology and Design


Assessment of learner performance in in Food Technology and Design -100%
Continuous assessment 30%
Summative Assessment 70%
Profiling
Projects 10%
Tests 10%
Practical assignments 10%
Paper 1 30%
Paper 2 40%
Profile
Exit Profile
Continuous assessment marks = 30%
Examination marks = 70%
FINAL MARKS 100%

Food Technology and Design will be assessed continuously from Form 5-6 through coursework and examination. Learners will be assessed in the following areas:

9.3.1 Course work

9.3.2 Practicals

9.3.2.1 Product preparation, serving, processing, packaging, branding and labeling

9.3.2.2 Design menus,

Design indigenous and non-indigenous therapeutic diets,

Design working gargets,

Design nutritional garden,

Design confectionaries,

Design beverages,

Design indigenous and non-indigenous marketable products

9.3.2.3 Evaluation, appreciation, leadership and communication skills.

9.3.2.4 Originality, creativity, innovation and collaboration competencies.

9.3.2.5 Food Technology and Design event management and administration.

9.3.2.6 Enterprise and research skills.

9.3.2.7 Planning, portfolios and case studies.

9.3.3 Theory

9.3.3.1 Assignments

9.3.3.2 Tests

Title	Duration	Marks	Weighting (%)
Paper 1: Theory **Structured questions** **Essays**	3 hours	100	30%
Paper 2: Practical **Planning session**	4 hours 1 and half hours	100	40%
Paper 3: **Continuous assessment**	2 year Cycle	100	30%
Total for papers 1,2 and 3		300	100%

Paper Description

Paper 1-40%

This component consists of 8 questions. Candidates are expected to answer four questions. This paper consists of two sections. Candidates are expected to answer a compulsory question in Section A Micro and macro nutrients and any 3 questions from section B. Each question carries 25 marks. Total marks for this paper is 100 marks.

Paper 2 – 35%

- Practical Paper-(100 marks). This component consists of 5 practical tasks which are based on Macro and Micro Nutrients,

Human Anatomy Physiology Diet and Health, Food Production cycle, Indigenous and modern Food Technology and Design,
Advanced Food Preparation and Service, Food Security and Enterprise. Candidates are expected to choose any 1 task which they are expected to perform within 4 hours. Examiners are expected to assess the candidate using a check list.

Paper 3- 2 year cycle 30% continuous assessment

Summary of Continuous Assessment Tasks
In Term 1 to 11, candidates are expected to have done at least the following recorded tasks per term:

- 1 practical task per term
- 1 written tests per term
- 1 project per year

The Food Technology and Design learning area will be assessed using Continuous and Summative assessment.

Form of assessment	**Weighting**
Continuous	30%
Summative	70%
Total	**100%**

Continuous Assessment

Level	**Assessment task**	**Frequency**	**Weighting**
Form 5	Practical Assignment Theory test Project	1 per term 1 per term 1 per year	5 5 5
Form 6	Practical Assignment Theory test Project	1 per term 1 per term 1 per year	5 5 5
Total			**30**

NOTE: All assessment tasks are marked out of 100. Assessment of soft skills will be done as learners respond to continuous assessment tasks.

SCHEME OF ASSESSMENT

PAPER	TYPE OF PAPER	DURATION	MARKS	WEIGHTING
1	Theory	3 hours	100	30%
2	Practical examination	4 hours (+ 1hr 30mins for planning session)	100	40%
3	Continuous assessment	11 terms	100	30%

9.4 SPECIFICATION GRID

Specification Grid for Continuous Assessment

Component Skills	Practical Tasks	Written Tests
Skill 1 Knowledge Comprehensive	30%	30%
Skill 2 Application Analysis	50%	50%
Skill 3 Synthesis Evaluation	20%	20%
Total Weighting	100% 20%	100% 10%

Specification Grid for Summative Assessment

	P1	P2	Total
Skill 1 Knowledge & Comprehension	30%	20%	50%
Skill 2 Application & Analysis	50%	60%	110%
Skill 3 Synthesis & Evaluation	20%	20%	40%
Total	100%	100%	200%
Weighting	40%	60%	100%
Actual Weight	%	%	%

SPECIFICATION GRID

ASSESSMENT OBJECTIVES	COMPONENTS		
	PAPER 1	PAPER 2	PAPER 3
1	+	+	+
2	+	+	+
3	+	+	+
4	+	-	+
5	+	-	+
6	+	+	+
7	+	+	+
8	+	+	+
9	+	+	+
10	+	+	+
11	+	-	+
12	+	+	+
13	+	+	+
14	+	+	+
15	+	-	+
16	+	-	+
17	+	+	+

26

10. APENDIX 1

Equipment Required for a Maximum of 15 Students

5	Large Bain Marie
8	serving stainless steel table
2	Large warmer
5	Food processors
2	industrial cookers
2	12cc freezer
4	Solid plate electric cookers
4	Gas stove
20	Palette knives
20x4	Table spoons
20x4	Dessert spoons
20x4	Teaspoons
12	Wooden spoons
20x4	Forks
20	Egg beaters12 Hand whisks
12	Scone cutters – set of 6
12	Rolling pins
12	Flour sieves
12	Small enamel bowls
12	Medium enamel bowls
12	Large enamel bowls
1	Refrigerator 9 cu ft
12	Large saucepans
12	Large grater
12	Cooling rack
40	Aluminum plates
12	Small aluminum saucepans
12	Aluminum medium saucepans
12	Measuring scales: 2 and 5kg
30	Tea towels
1	Mutton cloth 5m roll
1	Butter muslin 15m roll
1	Sheeting 10m length
6	Hand towels
12	Washbowls
12	Pastry boards
12	Patty tins
12	Swiss roll tins
12	Roasting tins large
12	Loaf tins
12	Flour sifters
12	Galvanized buckets
12	Tables with Formica top
12	Baking sheets
12	Pie dishes
5	Bread knives
12	Swabs
5	Glass measuring jugs
12	Scrubbing brushes
12	Plastic salt and pepper cellars
10	Bread boards
12	Lemon squeezers
10	Kitchen can openers
20	Bowl scrappers
2	Large plastic bins
2	Cake slicers
20	Cookie cutters set of 3
2	Galvanized dustpans
6	Canister set of 6
3	Skewers (3 sets)
20	Plastic baskets
1	Cutlery box
2	Dutch ovens
20	Dredgers
6	Doughnut fries
6	Harps
20	Moulds
4	Wood and coal stoves