FMCG
TRAINING SOLUTIONS

ACCREDITED BY:

FoodBev SETA
Food and Beverages Manufacturing Sector Education and Training Authority

NQF 3 FACT SHEET
NATIONAL CERTIFICATE: DAIRY PRIMARY PROCESSING

SAQA registered qualification ID: 74250

OVERVIEW

The purpose of this qualification is to ensure that the person who performs dairy primary processing can accurately operate the relevant equipment; solve related problems; and evaluate the quality of the processed product. The primary processing of raw milk, cream or fruit-milk mixtures is the preliminary step to the manufacturing of almost all dairy or dairy containing products. The skills and knowledge of primary processing are therefore seen as vital to ensure good quality and safe end products. A person acquiring this qualification will be able to apply primary processing technologies to milk, cream or fruit-milk mixtures. These products will be safe for human consumption; quality assured and comply with minimum legislation. Generic competencies such as cleaning and sanitising of the primary processing system will also be obtained. The person will be able to apply all relevant personal safety and food safety practice during the performance of his/her task.

MODULE CONTENT:

FUNDAMENTALS:

NUMERACY:

FOUNDATIONAL PRINCIPLES:

- Convert numbers between the decimal number system and the binary number system.
- Work with numbers in different ways to express size and magnitude.
- Demonstrate the effect of an error in calculations.
- Measure, estimate and calculate physical quantities in practical situations.
- Explore, describe and represent, interpret and justify geometrical relationships and conjectures

FINANCIAL CALCULATIONS:

- Use mathematics to plan and control personal; regional and/or national budgets; and income and expenditure.
- Use simple and compound interest to make sense of, and define a variety of situations.
- Use mathematics to debate aspects of the national economy.

STATISTICAL ANALYSIS:

- Pose questions, collect and organise data.
- Represent, analyse and interpret data using various techniques.
- Use random events to explore and apply probability concepts in simple life.

COMMUNICATION:

FOUNDATIONAL PRINCIPLES:

- Use a range of reading and/ or viewing strategies to understand the literal meaning of specific texts.
- Use strategies for extracting implicit messages in texts.
- Respond to selected texts in a manner appropriate to the context.
- Explore and explain how language structures and features may influence a reader/ viewer.

WRITTEN COMMUNICATION:

- Write / sign for a specific audience and purpose.
- Use language structures and features to produce coherent and cohesive texts for a wide range of contexts.
- Draft own writing/ signing and edit to improve clarity and correctness.

SPOKEN COMMUNICATION:

- Interact successfully in oral/ signed communication.
- Use strategies that capture and retain the interest of an audience.
- Identify and respond to manipulative use of language.

OCCUPATIONAL / BUSINESS COMMUNICATION:

- Access and use available learning resources.
- Use learning strategies.
- Manage occupational learning materials.
- Conduct basic research, and analyse and present findings.
- Function in a team.
- Reflect on how characteristics of the workplace and occupational context affect learning.

CORE AND ELECTIVES:

QUALITY:

- Demonstrate an understanding of the concept of micro-organisms in a food handling environment.
- Demonstrate an understanding of the growth and reproduction of micro-organisms in a food handling environment.
- Identify good manufacturing practices to control microbiological contamination during food handling.
- Demonstrate an understanding of the relevant quality control and quality assurance system for a food or sensitive consumer product operation.
- Measure and record quality control practices in a food or sensitive consumer product operation.
- Report on quality in a food or sensitive consumer product operation.
- Demonstrate an understanding of a CCP in a food handling environment.
- Monitor and record a CCP.
- Take action when a non-conformance is detected against the critical limits of a CCP.
- Monitor and control quality assurance procedures within a food or sensitive consumer product environment.
- Implement a quality assurance procedure in a food or sensitive consumer product environment.

PRIMARY PROCESSING OPERATIONS:

- Demonstrate an understanding of:
    - pasteurisation, thermisation or vaccreation of liquid food products
    - separating liquids using centrifugal force
    - fat standardization
    - homogenisation of liquid dairy product
- Prepare to:
    - pasteurise, thermise or vaccreate a liquid food product
    - separate liquids with different densities
    - standardization
    - homogenisation
- Pasteurise, thermise or vaccreate a liquid food product in a plate or tubular heat exchanger.
- Separate liquids using centrifugal force.
- Standardise and homogenise a liquid dairy product.
- Perform end procedures of:
    - pasteurisation, thermisation or vaccreation
    - separation
    - standardization
    - homogenisation
- Demonstrate an understanding of the concept of energy.
- Demonstrate an understanding of the generation and application of steam as a heating medium.
- Demonstrate an understanding of the application of water and gasses as cooling media.
- Demonstrate an understanding of the generation and application of electricity as an energy source for heating and cooling purposes.
- Demonstrate an understanding of the safe handling of heating and cooling media.

LABORATORY:

- Demonstrate an understanding of:
    - the origin of milk
    - the nutritional importance of milk
    - the physical properties of milk
    - the transformation of milk into commercial dairy products

- Demonstrate an understanding of:
    - determining the fat content of dairy products by means of the Gerber or Babcock fat test
    - milk or cream pasteurisation efficiency by means of the phosphatase test
    - the sensory quality of pasteurised milk, cream or fruit milk mixtures

- Prepare for:
    - Gerber or Babcock fat test on a dairy product
    - phosphatase test on milk or cream
    - the determination of the sensory quality of pasteurised milk, cream or fruit milk mixtures

- Determine:
    - the fat content of a dairy product with the Gerber or Babcock fat test
    - the pasteurisation efficiency by means of the phosphatase test on milk or cream
    - the sensory quality of pasteurised milk, cream or fruit milk mixtures

- Report on the quality of a dairy product in terms of its:
    - fat content
    - the efficiency of milk or cream pasteurisation
    - the sensory quality of pasteurised milk, cream or fruit milk mixtures

UNIT STANDARDS:

		ID	UNIT STANDARD TITLE	NQF LEVEL	CREDITS	DURATION
FUNDAMENTALS	Numeracy	7456	Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	3	5	10 DAYS
		9010	Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	3	2	
		9012	Investigate life and work related problems using data and probabilities	3	5	
		9013	Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	3	4	
	Communication	119457	Interpret and use information from texts	3	5	
		119472	Accommodate audience and context needs in oral/signed communication	3	5	
		119467	Use language and communication in occupational learning programmes	3	5	
		119465	Write/present/sign texts for a range of communicative contexts	3	5	
QUALITY	Core	120235	Demonstrate an understanding of the concept of microbiology in a food handling environment	3	6	8 DAYS
	Core	119802	Perform quality control practices in a food or sensitive consumer product operation	3	6	
	Elect	120239	Monitor critical control points (CCPs) as an integral part of a hazard analysis critical control point (HACCP) system	3	6	
	Elect	119796	Monitor and control quality assurance procedures in a food or sensitive consumer product environment.	4	8	
	Core	336867	Pasteurise, thermise or vaccreate a liquid food product by means of a plate or tubular heat exchanger.	3	12	12 DAYS
	Core	336862	Separate liquids using a centrifugal separator.	3	8	
	Core	336861	Standardise the fat content of a liquid dairy product.	3	7	
	Elect	336863	Homogenise a liquid dairy product.	3	6	
	Core	336799	Demonstrate an understanding of heating and cooling media in a food manufacturing environment.	2	4	
LABORATORY	Core	120245	Demonstrate an understanding of the nature of milk and its transformation into commercial dairy products.	3	6	
	Core	120241	Evaluate the quality of a dairy product in terms of its fat content, as determined by the Gerber or Babcock fat determination method.	3	5	
	Core	120243	Evaluate the efficiency of milk or cream pasteurisation as indicated by the phosphatase test.	3	5	
	Core	336879	Evaluate the sensory quality of pasteurised milk, cream or fruit milk mixtures.	3	5	
					120 CREDITS	**30 DAYS**