



Model Curriculum

QP Name: Artisanal Cheese Maker

QP Code: FIC/Q2008

Version: 2.0

NSQF Level: 4.0

Model Curriculum Version: 2.0

Food Industry Capacity & Skill Initiative || Shriram Bharatiya Kala kendra, 3rd floor, 1, Copernicus Marg,
Mandi House, New Delhi

Delhi 110001 || email: admin@ficsi.in

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Training Parameters

Sector	Food Processing
Sub-Sector	Dairy Products
Occupation	Processing-Dairy Products
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7513.0400
Minimum Educational Qualification and Experience	<p>12th-grade pass</p> <p>OR</p> <p>10th Grade Pass with 3 years of experience in food processing</p> <p>OR</p> <p>Previous relevant Qualification of NSQF Level 3.0 with minimum education as 8th grade pass with 3 years of experience in food processing</p> <p>OR</p> <p>Previous relevant Qualification of NSQF Level 3.5 with 1.5 years of experience in food processing</p>
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	17/12/2024
Next Review Date	16/12/2027
NSQC Approval Date	17/12/2024
QP Version	2.0
Model Curriculum Creation Date	10/11/2024
Model Curriculum Valid Up to Date	16/12/2027
Model Curriculum Version	2.0
Minimum Duration of the Course	420 Hours
Maximum Duration of the Course	420 Hours

Program Overview

This section summarises the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills to:

- Describe the steps involved in preparing for artisanal cheese production, including sourcing ingredients and setting up the production area.
- Explain the process of carrying out artisanal cheese production, focusing on key techniques such as curdling, cutting, and pressing.
- Discuss the procedures for preparing and packing artisanal cheese to maintain quality and freshness.
- Explain the measures to ensure food safety at the workplace during artisanal cheese production.
- Describe the workplace health and safety standards to be followed to prevent accidents and ensure a safe production environment.
- Discuss the Employability and Entrepreneurship Skills.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration (Hours)	Practical Duration (Hours)	On-the-Job Training Duration (Mandatory) (Hours)	On-the-Job Training Duration (Recommended) (Hours)	Total Duration (Hours)
FIC/N2027: Prepare for artisanal cheese production NOS Version No.: 2.0 NSQF Level: 4.0	40:00	50:00	30:00	00:00	120:00
Module 1: Introduction to the Food Processing Sector and job role of an Artisanal Cheese Maker	05:00	00:00	00:00	00:00	05:00
Module 2: Planning for Cheese Production	15:00	20:00	10:00	00:00	45:00
Module 3: Maintaining Work Area, Tools, and Equipment for Efficient Production	10:00	15:00	10:00	00:00	35:00
Module 4: Managing Materials for Artisanal Cheese Production	10:00	15:00	10:00	00:00	35:00
FIC/N2028: Carry out artisanal cheese production NOS Version No.: 2.0	40:00	80:00	30:00	00:00	150:00

NSQF Level: 4.0					
Module 5: Preparation and Production of Different Types of Artisan Cheese	15:00	30:00	15:00	00:00	60:00
Module 6: Monitoring Cheese-Making Parameters	10:00	20:00	05:00	00:00	35:00
Module 7: Techniques for Ripening Artisan Cheese	10:00	20:00	05:00	00:00	35:00
Module 8: Performing Quality and Safety Tests on Cheese	05:00	10:00	05:00	00:00	20:00
FIC/N2029: Prepare and pack artisan cheese NOS Version No.: 2.0 NSQF Level: 4.0	20:00	40:00	00:00	00:00	60:00
Module 9: Preparing and Packing the Artisan Cheese	10:00	20:00	00:00	00:00	30:00
Module 10: Carrying Out the Post-Production Activities	10:00	20:00	00:00	00:00	30:00
FIC/N9904: Ensure food safety at the workplace NOS Version No.: 1.0 NSQF Level: 5	10:00	20:00	00:00	00:00	30:00
Module 11: Basic Food Safety Standards	10:00	20:00	00:00	00:00	30:00
FIC/N9903 – Ensure Workplace Health and Safety NOS Version No.: 1.0 NSQF Level: 5	10:00	20:00	00:00	00:00	30:00
Module 12: Follow Preventive Measures to Avoid Accidents	02:00	06:00	00:00	00:00	08:00
Module 13: Manage Workplace Emergencies	04:00	08:00	00:00	00:00	12:00
Module 14: Manage Infection Control	04:00	06:00	00:00	00:00	10:00
DGT/VSQ/N0101: Employability Skills (30 Hours) NOS Version No.: 1.0 NSQF Level: 2	30:00	00:00	00:00	00:00	30:00

Module 15: Employability Skills (30 Hours)	30:00	00:00	00:00	00:00	30:00
Total Duration	150:00	210:00	60:00	00:00	420:00

Module Details

Module 1: Introduction to the Food Processing Sector and job role of an Artisanal Cheese Maker

Mapped to FIC/N7101, v2.0

Terminal Outcomes:

- Describe the food processing sector in brief.
- Discuss the career opportunities available to the individual within the food processing sector.
- Explain the importance of the training program and job role of an Artisanal Cheese Maker.

Duration (in hours): 05:00	Duration (in hours): 00:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Define the term ‘food processing’. • Discuss the size and scope of the food processing industry in brief. • List the various sub-sectors of the food processing industry. • Explain the objective of training individuals for the job of an ‘Artisanal Cheese Maker’. • Discuss the future trends and career growth opportunities available to the ‘Artisanal Cheese Maker’. • Summarise the key role and responsibilities of an ‘Artisanal Cheese Maker’. 	
Classroom Aids	
Training Kit - Facilitator’s Guide, Participant’s Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
Nil	

Module 2: Planning for Cheese Production

Mapped to FIC/N2027, v2.0

Terminal Outcomes:

- Describe the key factors to consider when planning for artisanal cheese production, including timelines, ingredients, and equipment needs.

Duration (in hours): 15:00	Duration (in hours): 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> Explain the characteristics of different cheese types and varieties (e.g., fresh, soft-ripened, semi-hard, hard, blue cheese, pasta filata) and their distinct qualities. Discuss the properties of milk from different animals (cow, buffalo, goat) and how these properties affect cheese production. Describe the impact of animal diet, species, and seasonality on the quality and flavour of the cheese. Elucidate the key processing steps in cheese making, such as setting milk, cutting curd, cooking, salting, and pressing. Explain cheese ripening principles and how they influence the texture, flavour, and overall characteristics of the final product. Discuss the role of pH, temperature, and ripening time in determining the quality and type of cheese produced. Describe the specific processing steps required for various cheese types and their unique production requirements. Determine the milk characteristics and components that are essential for high-quality cheese production. Explain the methods for identifying and controlling inhibitory substances in milk that can affect cheese production. Discuss the testing procedures for raw materials and ingredients to ensure they meet quality and production specifications for cheese making. 	<ul style="list-style-type: none"> Demonstrate how to organize tasks based on production requirements, ensuring effective allocation of timelines, resources, and equipment. Show how to create and document a standardized cheese production plan, including raw material quality, quantity, and timelines. Demonstrate how to develop a production process plan using process flowcharts and formulation guidelines. Show how to select the appropriate raw materials and equipment for different types of cheese, ensuring they meet production specifications. Demonstrate how to select suitable packaging materials based on the cheese type being produced. Show how to calculate the required quantities of raw materials, packaging materials, equipment, and personnel for efficient production. Demonstrate how to ensure the availability of necessary resources for planned cheese production. Show how to assign roles and responsibilities to the production team, providing support and addressing concerns.
Classroom Aids	

Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films

Tools, Equipment and Other Requirements

Different Types of Cheese, Required Equipment, Different Enzymes and Cultures, Sample Flow Charts, Formulation Charts, Sample Raw Materials Used, Packaging Materials, Vat, Brine Bath, Strainer, etc.

Module 3: Maintaining Work Area, Tools, and Equipment for Efficient Production

Mapped to FIC/N2027, v2.0

Terminal Outcomes:

- Explain how to maintain the work area for cheese production to ensure cleanliness, safety, and efficiency.
- Discuss the procedures for maintaining production tools and equipment to ensure their longevity and proper functioning during cheese production.

Duration (in hours): 10:00	Duration (in hours): 15:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the SOPs for the safe handling, storage, and testing of ingredients to maintain their functionality in cheese production. • Discuss the food safety risks associated with cheese production and the necessary control measures to prevent contamination. • Describe the workplace health and safety hazards in cheese production and the appropriate control measures to mitigate them. • Elucidate the cleaning, sanitation, and hygiene management procedures required for cheese-making tools and equipment. • Discuss the hazards associated with raw milk and the processes needed to ensure safe handling and testing before cheese production. • Explain the food safety and quality standards for maintaining hygienic conditions in the cheese production area. • Describe the organoleptic properties of cheese and how they are influenced by production processes and ingredient quality. • Determine the methods for identifying defects or abnormalities in materials and ensuring the implementation of corrective actions. • Explain the FSSAI guidelines regarding ingredient selection, storage, equipment 	<ul style="list-style-type: none"> • Demonstrate how to identify workplace health and safety hazards and implement appropriate control measures in line with safety standards. • Show how to identify and document food safety and quality non-compliance issues and apply corrective measures. • Demonstrate how to select the appropriate cleaning agents, sanitiser application methods, and equipment for effective cleaning. • Show how to implement cleaning and sanitation methods to minimize contamination and comply with environmental regulations. • Demonstrate how to evaluate and adjust cleaning and sanitation methods for effectiveness and environmental impact. • Show how to document and communicate cleaning and sanitation responsibilities to relevant personnel. • Demonstrate how to ensure clean tools, equipment, and production areas for hygienic cheese production. • Show how to dispose of waste according to environmental guidelines and SOPs. • Demonstrate how to clean and sanitize production tools, equipment, and machinery using recommended sanitisers. • Show how to inspect production tools, equipment, and machinery for proper functioning.

<p>upkeep, and proper documentation for cheese production.</p>	<ul style="list-style-type: none"> • Demonstrate how to perform basic repair and maintenance of production tools, equipment, and machinery. • Show how to coordinate with OEMs for resolving issues requiring professional assistance. • Demonstrate how to maintain records of inspections, repairs, and maintenance for production tools, equipment, and machinery.
<p>Classroom Aids</p>	
<p>Training Kit - Facilitator’s Guide, Participant’s Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>Sample Flow Chart, Formulation Charts, Sample Reports on Raw Materials Used, Packaging Materials, Quality Testing Reports, Goods Receipt Notes (GRN), Sanitizers, Cleaning Agents, etc.</p>	

Module 4: Managing Materials for Artisanal Cheese Production

Mapped to FIC/N2027, v2.0

Terminal Outcomes:

- Explain how to manage artisanal cheese production materials, focusing on storage, inventory, and quality control.

Duration (in hours): 10:00	Duration (in hours): 15:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the milk sampling and testing procedures used to confirm the suitability of milk for cheese production. • Explain the sampling requirements specific to different cheese types and the relevant tests needed to ensure quality. • Determine the data collection methods for ensuring food safety, quality, and production standards in cheese making. • Discuss how to manage pH, moisture, and salt gradients effectively during the cheese production process. • Explain the operation and maintenance of equipment used in artisan cheese production. • Describe the routine maintenance procedures for cheese production tools and machinery to ensure efficiency. • Determine the selection and maintenance of appropriate packaging materials for different types of cheese. • Discuss the control measures for managing moisture content during the cheese-making process. • Explain the environmental issues, waste management, and safe disposal procedures relevant to cheese production. • Describe the SOPs for the safe disposal of hazardous materials from the cheese production workplace. • Elucidate the general nutritional properties of cheese and how to ensure they meet quality expectations. 	<ul style="list-style-type: none"> • Demonstrate how to ensure a safe environment for receiving, testing, storing, and processing materials in compliance with food safety guidelines. • Show how to coordinate the receipt of fresh milk and other materials from suppliers while ensuring traceability and proper documentation. • Demonstrate how to establish and document standardized testing procedures for received milk and materials to ensure compliance with production specifications. • Show how to inspect and test raw materials based on sensory, physical, chemical, and biological parameters to confirm suitability for production. • Demonstrate how to blend milk based on test data to meet specific production needs and cheese specifications. • Show how to store milk and other materials under recommended conditions in compliance with food safety standards. • Demonstrate how to implement a system for identifying defects or abnormalities in received milk and other materials. • Show how to report sub-standard materials to suppliers and coordinate timely resolution of quality-related issues. • Demonstrate how to organize ingredients in the production area for efficient workflow. • Show how to maintain accurate records of material receipt, testing, and consumption, including Goods Receipt Notes (GRN), quality testing reports, and inventory.

- Explain the use of adjunct cultures in the fermentation process during cheese production.
- Discuss the factors that influence cheese affinage (ageing) and how to ensure proper ageing and quality control.

Classroom Aids

Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films

Tools, Equipment and Other Requirements

Required Raw Material, Fresh Milk, Sample Reports on Raw Materials Used, Packaging Materials, Quality Testing Reports, Goods Receipt Note (GRN), Refrigeration Units, Cheese Molds, Curing Cabinets, pH Meters, Thermometers, Cheese Presses, Salt Briners, and Sterilization Equipment

Module 5: Preparation and Production of Different Types of Artisan Cheese

Mapped to FIC/N2028, v2.0

Terminal Outcomes:

- Describe the steps involved in preparing milk for making cheese.
- Explain the process of producing lactic acid-coagulated cheese.
- Discuss the methods for producing rennet-based coagulated cheese.
- Explain how to produce acid and heat-coagulated cheese.

Duration (in hours): 15:00	Duration (in hours): 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Discuss the characteristics and production requirements of different cheese types such as cream cheese, queso fresco, cheddar, and Swiss cheese. • Explain the specific raw materials, additives, and preservatives used for various cheese types and their roles in the production process. • Describe the quality parameters of milk, cultures, enzymes, and other ingredients essential for cheese production. • Elucidate the appropriate cultures, starter bacteria, and enzymes needed for different cheese varieties and their impact on cheese quality. • Discuss how to follow and adjust cheese recipes based on production requirements and the factors influencing these adjustments. • Describe the processes of testing, pasteurizing, and cooling milk for cheese production and their significance in ensuring product safety and quality. • Explain the techniques for acidifying milk, adding starter cultures, and using coagulating enzymes in cheese-making. 	<ul style="list-style-type: none"> • Demonstrate how to pasteurize milk to eliminate microorganisms. • Show how to cool pasteurized milk to the appropriate temperature to promote starter culture growth. • Demonstrate how to standardize milk composition based on cheese requirements. • Show how to safely transfer pasteurized milk to cheese vats under hygienic conditions. • Demonstrate how to add and mix starter culture into preheated milk according to cheese type. • Show how to add coagulating enzymes, if required, and maintain appropriate vat temperature based on cheese variety. • Demonstrate how to manage curd ladling, cutting, and breaking to meet production targets while monitoring moisture by controlling syneresis. • Show how to adjust calcium phosphate levels and drain curd to maintain the desired pH and consistency. • Demonstrate how to add starter culture and mould spores to preheated milk and use adjunct cultures to modify texture and flavour. • Show how to control acid levels by adding acid before culture and calculate time for optimal acidification and moisture levels. • Demonstrate how to monitor curd hardening, cutting, and whey removal or

	<p>washing to control lactose levels and maximize yield.</p> <ul style="list-style-type: none"> • Show how to mat curd under whey if required for specific cheeses, then drain the whey and prepare curd for further processing. • Demonstrate how to apply pressure and turn cheese in moulds to ensure proper formation, drainage, and acidification. • Show how to acidify preheated milk with a starter culture for coagulation and hold curd in whey for further coagulation. • Demonstrate how to adjust cheese flavour using ingredients like whey, cream, and salt, and drain whey to achieve the desired texture. • Show how to apply salting treatments, then cool and dry the cheese before packaging.
Classroom Aids	
Training Kit - Facilitator’s Guide, Participant’s Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
Types of Cheese (Fresh, Aged, Soft, Hard, and Blue), Rennet, Milk, Cultures, Salt, Starter Cultures, Cheese Vat, Cheese Molds, Cheese Press, Brine Bath, pH Meter, Thermometers, Curds and Whey Separators, Cheese Aging Racks, Cheese Cloths, Sterilization Equipment, Curing Cabinet, Cheese Aging Containers, Accurate Scales, etc.	

Module 6: Monitoring Cheese-Making Parameters

Mapped to FIC/N2028, v2.0

Terminal Outcomes:

- Determine the parameters that need to be monitored during the cheese-making process.

Duration (in hours): 10:00	Duration (in hours): 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Determine the importance of recording pH, temperature, and other critical parameters throughout the cheese-making process and their role in quality control. • Discuss how curd size affects moisture retention and how to select the correct size based on cheese type. • Describe the significance of stirring during curd formation and how to monitor consistency and texture. • Elucidate the techniques for producing moulded cheese, including hooping, pressing, and surface drying, and their effects on the final product. • Explain the procedure for adding salt and controlling brine solution temperature to ensure even flavour and texture in cheese. 	<ul style="list-style-type: none"> • Demonstrate how to monitor milk temperature and curd consistency. • Show how to stir curd according to production goals and analyze whey content to gauge yield efficiency. • Demonstrate how to optimize curd yield through process adjustments and transfer cheese to a brine bath for salting. • Show how to control brine temperature for uniform flavour and record pH, acidity, and temperature after each process.
Classroom Aids	
Training Kit - Facilitator’s Guide, Participant’s Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
pH Meter, Thermometer, Cheese Moisture Analyzer, Cheese Tasting Tools, Cheese Aging Cabinets, Humidity Controllers, Cheese Aging Racks, Microbiological Testing Kits, Texture Analyzers, Sensory Evaluation Equipment, Fat Content Analyzers, etc.	

Module 7: Techniques for Ripening Artisan Cheese

Mapped to FIC/N2028, v2.0

Terminal Outcomes:

- Discuss the process of ripening artisan cheese and its impact on flavour and texture.

Duration (in hours): 10:00	Duration (in hours): 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the storage methods for cheese ageing and how to monitor ripening conditions such as humidity and temperature. • Discuss the procedures for conducting sensory, physical, and chemical tests to ensure cheese quality. • Explain the methods for testing microbial contamination, such as salmonella, staphylococcus, listeria, and E. coli, and how to interpret the results. • Elucidate how different ingredients and techniques influence the flavour and texture of cheese. • Determine the methods for improving curd yield and cheese quality through process control. 	<ul style="list-style-type: none"> • Demonstrate how to store cheese for ageing based on type and monitor ripening conditions (humidity, temperature, aeration). • Show how to optimize ripening agents and composition ratios for soft cheeses and apply surface treatments per cheese recipe. • Demonstrate how to turn cheese to ensure even ripening and perform quality tests (pH, moisture, texture) during and post-production. • Show how to record necessary data and address defects during maturation.
Classroom Aids	
Training Kit - Facilitator’s Guide, Participant’s Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
pH Meter, Thermometer, Cheese Moisture Analyzer, Cheese Tasting Tools, Cheese Aging Cabinets, Humidity Controllers, Cheese Aging Racks, Microbiological Testing Kits, Texture Analyzers, Sensory Evaluation Equipment, Fat Content Analyzers, etc.	

Module 8: Performing Quality and Safety Tests on Cheese

Mapped to FIC/N2028, v2.0

Terminal Outcomes:

- Describe the appropriate tests performed on cheese to ensure quality and safety.

Duration (in hours): 05:00	Duration (in hours): 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the basic molecular structure of proteins, fats, and carbohydrates in cheese and their roles in cheese properties. • Discuss the use of surface treatments and adjunct cultures in controlling the ripening process of cheese. • Describe the pH and acidity profiles for different types of cheese and how they affect texture and taste. 	<ul style="list-style-type: none"> • Demonstrate how to determine sampling points and sizes for tests and prepare samples following workplace protocols. • Show how to sterilize and select sampling equipment while following safety protocols for handling chemicals and microbes. • Demonstrate how to observe and record yeast and mould data, test for inhibitory substances in milk, and conduct sensory testing for organoleptic properties. • Show how to interpret test results and adjust the process accordingly.
Classroom Aids	
Training Kit - Facilitator’s Guide, Participant’s Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
pH Meter, Thermometer, Cheese Moisture Analyzer, Cheese Tasting Tools, Cheese Aging Cabinets, Humidity Controllers, Cheese Aging Racks, Microbiological Testing Kits, Texture Analyzers, Sensory Evaluation Equipment, Fat Content Analyzers, etc.	

Module 9: Preparing and Packing the Artisan Cheese

Mapped to FIC/N2029, v2.0

Terminal Outcomes:

- Explain the process of packing cheese, including techniques and materials used to ensure quality and shelf life.
- Describe how to prepare and present artisan and specialty cheese, focusing on presentation techniques and customer engagement.

Duration (in hours): 10:00	Duration (in hours): 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the cheese packaging process, including FSSAI standards for materials and information recorded (e.g., batch number, expiry date). • Describe packaging materials' properties (e.g., moisture-proof, oxygen barrier) for different cheese types. • Discuss handling, presentation, and storage requirements for various cheese types (e.g., soft, hard). • Explain FSSAI guidelines for cheese production, packaging, labelling, and storage. • Describe inspecting finished cheese to ensure quality and compliance. • Discuss coordinating with vendors for distribution details (e.g., shipment times, and quantities). • Explain safe disposal of waste according to standard procedures. • Describe optimal storage temperatures and conditions for different cheese types. • Discuss wrapping techniques to preserve cheese flavour, texture, and shelf life. • Explain designing cheese displays and themes for tastings. • Describe steps for conducting cheese tastings, including presentation and customer engagement. 	<ul style="list-style-type: none"> • Demonstrate how to ensure packaging material meets the required specifications and pack cheese safely while maintaining product integrity. • Show how to monitor the packaging process to ensure the cheese is properly sealed and protected, and record packaging information such as product name, batch number, and expiry dates. • Demonstrate how to cut cheese into specified weights using appropriate tools and create a visually appealing display for cheese in display cabinets. • Show how to organize and serve cheese tastings, including pairing suggestions, and present cheese with details on its characteristics, provenance, and processing techniques. • Demonstrate how to store cheese in appropriate environmental conditions, wrap it using suitable materials, and advise customers on proper post-purchase storage.
Classroom Aids	

Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films

Tools, Equipment and Other Requirements

Packaging Material, Packaging Machine, Cheese Wrapping Film, Vacuum Sealer, Cheese Labels, Sealing Equipment, Packaging Trays, Cheese Storage Containers, Palletizing Equipment, and Shrink-Wrapping Machine, etc.

Module 10: Carrying Out the Post-Production Activities

Mapped to FIC/N2029, v2.0

Terminal Outcomes:

- Discuss the post-production activities for cheese, including quality control, documentation, and handling.

Duration (in hours): 10:00	Duration (in hours): 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain how to monitor and control the packaging process to ensure product safety and proper sealing. • Describe the procedures for managing finished products, including tracking quality, stock levels, and shipment details. • Discuss the cleaning and sanitizing procedures for work areas, tools, and equipment to prevent contamination. • Elucidate the methods for troubleshooting and repairing minor equipment faults to maintain production efficiency. • Explain the care required during cheese ripening and how to monitor and adjust storage conditions. • Determine the importance of accurately recording data such as pH levels, temperature, and moisture content throughout production, packaging, and distribution. 	<ul style="list-style-type: none"> • Demonstrate how to assess the quality of cheese before dispatch and guide buyers and sellers on the optimal ripening stage and care for cheese. • Show how to coordinate with vendors for effective distribution and supply of cheese, while maintaining records of goods supplied, vendor and customer details, and shipment times. • Demonstrate how to track and ensure the quality and quantity of raw, processed, and finished goods align with purchase orders. • Show how to ensure a clean workplace by taking measures to prevent pest infestations, dust, and contamination, and sanitize equipment, tools, and work areas using recommended cleaning agents and sanitisers. • Demonstrate how to perform basic repairs on equipment and machines when necessary and follow recommended measures to minimize packaging waste during production and dispose of waste materials according to standard procedures.
Classroom Aids	
Training Kit - Facilitator’s Guide, Participant’s Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
Quality Control Software, Labelling Machine, Rework Stations, Storage Bins, Cleaning Equipment, Maintenance Tools, Inventory Management System, Traceability System, and Data Recording Devices, etc.	

Module 11: Basic Food Safety Standards

Mapped to FIC/ N9904, v1.0

Terminal Outcomes:

- Explain the various food safety standards to be followed during the production process
- Discuss how to prepare sample reports regarding food safety regulations, inspections, faults observation, etc.

Duration (in hours): 10:00	Duration (in hours): 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • List the types of biological, chemical and physical hazards present in the food processing industry. • Discuss various types of food contaminations, their causes, and ways to prevent them. • Discuss the importance of following the standard procedures for ensuring food safety). • State the importance of ensuring that the materials (such as raw materials, processed materials, finished goods, etc.) are adequately isolated to prevent them from contamination. • Outline the standard regulations to be followed for ensuring food safety as listed in 'The Food Safety and Standards Act, 2006 that need to be followed during production. • Discuss the role of HACCP, VACCP and TACCP as well as procedures to implement these in the food industry. • Discuss about product information and consumer awareness, product recall and withdrawal, and traceability. • Explain the procedure to conduct workplace food safety audits. • Discuss various types of allergens and their management at the workplace. • Discuss the corrective measures to be applied to ensure food safety. • List various issues that can arise during food production and other processes. 	<ul style="list-style-type: none"> • Apply appropriate practices to identify various biological, chemical, and physical hazards at various stages (procurement of raw material; production, manufacturing, distribution, delivery of finished product, etc.) of food processing. • Employ appropriate practices to implement food safety procedures and regulatory policies at the workplace. • Employ appropriate practices to establish and follow Good Manufacturing Practices (GMPs) related to ergonomics, cleaning and sanitation, equipment and containers, pest control, facilities, food storage, transportation, distribution etc. • Demonstrate the procedure followed for allergen management and handling and storage of raw materials. • Apply appropriate practices to establish and follow monitoring systems, like Hazard Analysis Critical Control Point (HACCP). • Apply relevant practices to take appropriate action in instances such as VACCP (Vulnerability Assessment Critical Control Points) and TACCP (Threat Assessment Critical Control Points). • Apply appropriate practices to plan and execute an audit on food safety address the non-conformance with root cause analysis (RCA), and take corrective and preventive action (CAPA)). • Role play a situation on how to address issues pertaining to food safety and quality reported by the team members.

<ul style="list-style-type: none"> • Discuss the procedure of performing root cause analysis and taking corrective and preventive actions against workplace problems. • State the significance of training the team members regarding various food safety procedures such as GMP, HACCP, etc. • List the information to be recorded in the work process 	<ul style="list-style-type: none"> • Prepare sample reports for food safety regulations followed, inspections done, faults observed, etc. • Dramatize a situation on how to organize training and workshops on food safety aspects such as Good Manufacturing Practices (GMP), HACCP, VACCP, TACCP, etc.
Classroom Aids	
Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
Sample pictures of various biological, chemical, and physical hazards, Sample pictures of Contaminants, samples of potential allergens, process flow chart and HACCP plan.	

Module 12: Follow Preventive Measures to Avoid Accidents

Mapped to FIC/N9903, v1.0

Terminal Outcomes:

- Explain the standard procedure to be followed for dealing with workplace hazards safely
- Describe how to minimize potential risks and accidents at the workplace,
- Demonstrate how to train the workforce on accident prevention techniques effectively

Duration (in hours): 02:00	Duration (in hours): 06:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Define 'hazards' and 'risks'. • Discuss the causes of various types of workplace hazards, risks and accidents, preventive measures to be taken as well as the procedures to deal with the same. • State the importance of maintaining the equipment effectively. • Discuss the standard practices to be followed to control and prevent risks, hazards, and accidents. • Discuss the various types of safety signs and their relevance at the workplace. • State the significance of displaying the common hazard signages wherever required. • Outline the importance of ensuring the availability of general health and safety equipment at all times. • Describe the causes of fire, ways to prevent them and rescue techniques to be followed at times of fire at the workplace. • Outline the purpose and usage of various Personal Protective Equipment (PPE) required at the workplace. 	<ul style="list-style-type: none"> • Demonstrate how to use and dispose of relevant personal protective equipment as per tasks and work conditions. • Show how to implement organisational safety protocols to prevent accidents and hazards at the workplace. • Demonstrate how to use various types of fire extinguishers effectively Dramatize a situation on how to train the workforce on accident prevention techniques (such as role of appropriate PPE; use of fire extinguishers, dealing with hazards; identification of risks that could lead to accidents; safety protocols followed to avoid accidents; role of different types of hazard signs, safe lifting and carrying practices, etc. required at the workplace
Classroom Aids	
Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	

Personal Protection Equipment: Safety glasses, Head protection, Rubber gloves, Safety footwear, Warning signs and tapes, Fire extinguisher, First aid kit, Relevant Standard Operating Procedures and Sample reports

Module 13: Manage Workplace Emergencies

Mapped to FIC/N9903, v1.0

Terminal Outcomes:

- Explain the appropriate practices to deal with the emergencies at workplace effectively.
- Describe the trainings to be provided for dealing with emergencies at the workplace.

Duration (in hours): 04:00	Duration (in hours): 08:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Discuss workplace emergency and evacuation procedures and the importance of following them. • Explain the procedure to be followed for administering immediate first aid to victims in case of cuts, bleeding, burns, choking, electric shock, poisoning, etc. • Discuss the procedure to be followed for providing artificial respiration and cardiopulmonary resuscitation (CPR) to the affected person and highlight its significance. • State the impact of health, safety and security breaches on self, team, and work process 	<ul style="list-style-type: none"> • Demonstrate the procedure to be followed to free a person from electrocution safely. • Show how to administer appropriate first aid procedure to victims in case of cuts, bleeding, burns, choking, electric shock, poisoning, etc • Demonstrate the procedure followed to provide artificial respiration and cardiopulmonary resuscitation (CPR) in various instances (e.g., cardiac arrest) . • Roleplay a situation on how to report information such as identified breaches in health, safety and security policies and procedures to the concerned authority accurately. • Dramatize a situation on how to train the workforce on emergency procedures (such as safe evacuation; treating a person from electrocution; immediate first aid to be given at times of cuts, bleeding, burns, choking, electric shock, poisoning, etc.; administering artificial respiration and cardio-pulmonary resuscitation (CPR); escalating issues beyond own scope, etc.) to be followed at the workplace
Classroom Aids	
Training Kit - Facilitator’s Guide, Participant’s Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
Personal Protection Equipment: Safety glasses, Head protection, Rubber gloves, Safety footwear, Warning signs and tapes, Fire extinguisher, First aid kit, Relevant Standard Operating Procedures and Sample reports	

Module 14: Manage Infection Control

Mapped to FIC/N9903, v1.0

Terminal Outcomes:

- Describe the various steps to be followed for managing infections at the workplace.
- Discuss the various tasks to train the workforce on infection control practices effectively

Duration (in hours): 04:00	Duration (in hours): 06:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • List the general sources of infections. • Discuss the procedures to be followed to tackle infection spread and the importance of carrying out the sanitization of the work area, equipment and related facilities as per standards. • Explain various ways to store the sanitization materials appropriately. • Discuss various types of potential infections along with the precautionary measures to be taken, and safety protocols to be followed at the workplace. • Discuss appropriate actions to be taken during illness to self and others at the workplace. • Describe the parameters to be assessed during health and safety audits, their acceptability levels of appropriateness and the procedure to conducting these audits. • Discuss various parameters to be assessed and compliance issues to be addressed during the review of SOPs and the ways to improve them as per required quality and safety standards. • State the importance of undergoing preventive health check-ups organized by the organisation in compliance with FSSAI guidelines. • List various types of documents and records to be maintained in the work process 	<ul style="list-style-type: none"> • Employ appropriate practices to follow and enforce Good Hygiene Practices (GHP) among the team members • Employ appropriate practices to store sanitisation materials effectively. • Dramatize a situation to address team issues related to workplace health and safety Roleplay on how to train the workforce on infection control practices to be followed at the workplace
Classroom Aids	

Training Kit - Facilitator's Guide, Participant's Handbook, Presentations and Software, Whiteboard, Marker, Projector, Laptop, Video Films

Tools, Equipment and Other Requirements

Relevant Standard Operating Procedures and Sample Reports

Module 15: Employability Skills (30 Hours)

Mapped to DGT/VSQ/N0101, v1.0

Duration: 30:00

Key Learning Outcomes

Introduction to Employability Skills Duration: 1 Hour

After completing this programme, participants will be able to:

1. Discuss the importance of Employability Skills in meeting the job requirements

Constitutional values - Citizenship Duration: 1 Hour

2. Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.

3. Show how to practice different environmentally sustainable practices

Becoming a Professional in the 21st Century Duration: 1 Hour

4. Discuss 21st-century skills.

5. Display a positive attitude, self-motivation, problem-solving, time management skills and continuous learning mindset in different situations.

Basic English Skills Duration: 2 Hours

6. Use appropriate basic English sentences/phrases while speaking

Communication Skills Duration: 4 Hours

7. Demonstrate how to communicate in a well-mannered way with others.

8. Demonstrate working with others in a team

Diversity & Inclusion Duration: 1 Hour

9. Show how to conduct oneself appropriately with all genders and PwD

10. Discuss the significance of reporting sexual harassment issues in time

Financial and Legal Literacy Duration: 4 Hours

11. Discuss the significance of using financial products and services safely and securely.

12. Explain the importance of managing expenses, income, and savings.

13. Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws

Essential Digital Skills Duration: 3 Hours

14. Show how to operate digital devices and use the associated applications and features, safely and securely

15. Discuss the significance of using the internet for browsing, and accessing social media platforms, safely and securely

Entrepreneurship Duration: 7 Hours

16. Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges

Customer Service Duration: 4 Hours

17. Differentiate between types of customers

18. Explain the significance of identifying customer needs and addressing them

19. Discuss the significance of maintaining hygiene and dressing appropriately

Getting ready for Apprenticeship & Jobs Duration: 2 Hours

20. Create a biodata

21. Use various sources to search and apply for jobs

22. Discuss the significance of dressing up neatly and maintaining hygiene for an interview

23. Discuss how to search and register for apprenticeship opportunities

Module 16: On-the-Job Training

Mapped to Artisanal Cheese Maker

Mandatory Duration: 60:00	Recommended Duration: 00:00
Location: On-Site	
<p>Terminal Outcomes</p> <ul style="list-style-type: none"> • Demonstrate how to plan for artisanal cheese production, including determining timelines, selecting ingredients, and identifying equipment needs. • Show how to maintain the work area for cheese production, ensuring cleanliness, safety, and efficiency. • Demonstrate how to maintain production tools and equipment to ensure longevity and proper functioning during cheese production. • Show how to manage artisanal cheese production materials, focusing on storage, inventory, and quality control. • Demonstrate how to prepare milk for making cheese. • Show how to produce lactic acid-coagulated cheese step-by-step. • Demonstrate the methods for producing rennet-based coagulated cheese. • Show how to produce acid and heat-coagulated cheese effectively. • Demonstrate how to monitor key parameters during the cheese-making process. • Show how to manage the ripening process of artisan cheese and its impact on flavour and texture. • Demonstrate the appropriate tests performed on cheese to ensure quality and safety. • Show how to pack cheese using techniques and materials that ensure quality and shelf life. • Demonstrate how to prepare and present artisan and specialty cheese with focus on presentation techniques and customer engagement. • Show how to handle post-production activities for cheese, including quality control, documentation, and proper handling procedures. 	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialisation	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate/ Diploma	Food Technology or Engineering / Food Science/ Home Science/ Food Processing	3	Food Science/ Home Science/ Food Processing/ Dairy Products	1	Training of Artisanal Cheese Maker	

Trainer Certification	
Domain Certification	Platform Certification
Certified for Job Role: "Artisanal Cheese Maker" mapped to QP: "FIC/Q2008, v2.0". Minimum accepted score is 80%.	Recommended that the Trainer is certified for the Job Role: "Trainer (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2601, v2.0". The minimum accepted score as per MEPSC guidelines is 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate/ Diploma	Food Technology or Engineering / Food Science/ Home Science/ Food Processing	3	Food Science/ Home Science/ Food Processing/ Processing Dairy Products	1	Training of Artisanal Cheese Maker	

Assessor Certification	
Domain Certification	Platform Certification
Certified for Job Role: “Artisanal Cheese Maker” mapped to QP: “FIC/Q2008, v2.0”. Minimum accepted score is 80%.	Certified for the Job Role: “Assessor (VET and Skills)”, mapped to the Qualification Pack: “MEP/Q2701, v2.0”, with a minimum score of 80%.

Assessment Strategy

This section includes the processes involved in identifying, gathering and interpreting information to evaluate the learner on the required competencies of the program.

Assessment will be based on the concept of Independent Assessors empanelled with Assessment Agencies, identified, selected, trained and certified on Assessment techniques. These Assessors would be aligned to assess as per the laid down criteria.

Assessment Agency would conduct assessment only at the training centres of Training Partner or designated testing centers authorized by FICSI.

Ideally, the assessment will be a continuous process comprising of three distinct steps:

- A. Mid-term assessment
- B. Term/Final Assessment

Each National Occupational Standard (NOS) in the respective QPs will be assigned weightage. There in each Performance Criteria in the NOS will be assigned marks for theory and/or practical based on relative importance and criticality of function.

This will facilitate preparation of question bank / paper sets for each of the QPs. Each of these papers sets/question banks created by the Assessment Agency will be validated by the industry subject matter experts through FICSI, especially with regard to the practical test and the defined tolerances, finish, accuracy etc.

The following tools are proposed to be used for final assessment:

- i. Written Test: This will comprise of (i) True/False Statements, (ii) Multiple Choice Questions, (iii) Matching Type Questions. Online system for this will be preferred.
- ii. Practical Test: This will comprise a test job to be prepared as per project briefing following appropriate working steps, using necessary tools, equipment and instruments. Through observation it will be possible to ascertain candidate's aptitude, attention to details, quality consciousness etc. The end product will be measured against the pre-decided MCQ filled by the Assessor to gauge the level of his skill achievements.
- iii. Structured Interview: This tool will be used to assess the conceptual understanding and the behavioural aspects as regards the job role and the specific task at hand.

On the Job:

1. Each module (which covers the job profile of Artisanal Cheese Maker will be assessed separately.

2. The candidate must score 50% in each module to successfully complete the OJT.

3. Tools of Assessment that will be used for assessing whether the candidate is having desired skills and etiquette of dealing with customers, understanding needs & requirements, assessing the customer and perform Soft Skills effectively:

- Videos of Trainees during OJT
- Answer Sheets of Question Banks
- Assessing the Logbook entries of Trainees at Employer location
- Employer Performance Feedback.

4. Assessment of each Module will ensure that the candidate is able to:

- Carry out production of fortified food
- Work effectively and efficiently as per schedules and timelines.
- Escalate the problem to appropriate authority.
- Implement safety practices.
- Optimize the use of resources to ensure less wastage and maximum conservation.

References

Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective, or psychomotor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do it upon the completion of the training.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

Term	Description
NCVET	National Council for Vocational Education and Training
NVEQF	National Vocational Educational Qualification Framework
FICSI	Food Industry Capacity & Skill Initiative
QP	Qualification Pack
MC	Model Curriculum
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
NCO	National Classification of Occupations
ES	Employability Skills
HACCP	Hazard Analysis and Critical Control Points
FSSAI	Food Safety and Standards Authority of India
GMPs	Good Manufacturing Practices
GHP	Good Hygiene Practices
PPE	Personal Protective Equipment
SOP	Standard Operating Procedure
FIFO	First In First
FEFO	First Expire First Out
CAPA	Corrective and Preventive Action
RCA	Root Cause Analysis