



Republic of Rwanda
Ministry of Education



RTB | RWANDA
TVET BOARD

FOPHS303

FOOD HYGIENE AND SAFETY

CONDUCT FOOD HYGIENE AND SAFETY PRACTICES

Competence

RQF Level: 3

Learning Hours



40

Credits: 4

Sector: Agriculture and Food Processing

Trade: Food Processing

Module Type: General

Curriculum: **AGR FOP3003**- TVET Certificate 3 Food Processing

Purpose statement	This module describes the skills, knowledge and attitude required to conduct food hygiene and safety practices in the food processing industry. These practices must be conducted by assistant technician at the workplace. At the end of this module a Learner must be able to Identify food contaminants, Perform Hygienic practices and Implement food safety at high effectiveness under regular and directive supervision.					
Learning assumed to be in place	N.A					
Delivery modality	Training delivery		100%	Assessment		Total 100%
	Theoretical content		30%	Formative assessment	30%	50%
	Practical work:		70%		70%	
	• Group project and presentation	20%				
	• Individual project /Work	50%				
			Summative Assessment		50%	

Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
1. Differentiate food contaminants	1.1. Physical contaminants are appropriately identified according to their source
	1.2. Chemical contaminants are accurately Identified according to their source.
	1.3. Biological contaminants are properly categorized according to their type.
2. Perform Hygienic practices	2.1. Personal hygiene is properly maintained according to working instruction
	2.2. Workplace is appropriately cleaned according to cleaning program.
	2.3. Wastes are effectively disposed according to regulations.
3. Implement food safety	3.1. Prevention measures of contaminants are well implemented according to their type.
	3.2. Pests are properly controlled according to their type.
	3.3. Critical Control points are respected depending on the product specification.

Learning outcomes	At the end of the module the learner will be able to: 1. Identify food contaminants and hazard 2. Perform Hygienic practices 3. Implement food safety
Learning outcome 1: Identify food contaminants and hazard	Learning hours: 10
Indicative content	
• Identification of Physical contaminants and hazards ✓ differentiation physical contaminants and hazards ✓ source of physical contaminants and hazards ✓ effect of physical contaminants and hazards • identification Chemical contaminants and hazards ✓ differentiation of chemical contaminants and hazards ✓ source of chemical contaminants and hazards ✓ effect of chemical contaminants and hazards • Categorization of Biological contaminants and hazards ✓ Differentiation of Biological contaminants and hazards ✓ Groups of biological contaminants and Hazards ✚ Macro biological ✚ Microbiological ✓ sources of biological contaminants and hazards ✓ effect of Biological contaminants and hazards.	
Resources required for the learning outcome	
Equipment	Projector, Computers, Laboratory facilities
Materials	samples and other teaching aids, chalks, Pens, Flip-chart, markers

Tools	Sieves, Filters, Magnets, Trainer guide, Reference books, Black board, Flip chart stand
Facilitation techniques	• Demonstration and simulation • Individual and group work • Practical exercise • Trainer guided • Group discussion
Formative assessment methods	• Written assessment • Oral presentation • Performance assessment

1. Learning outcome 2: Perform Hygienic practices	Learning hours: 10
Indicative content	
• Maintaining Personal hygiene ✓ Purpose of personal hygiene ✓ Personal behaviour in food processing plant + Bad habits in food processing plant + Cleanliness habits	

- ✓ Health statements of food handler.
- ✓ personal protective equipment

- **Cleaning of the Workplace**

- ✓ purpose of cleaning workplace
- ✓ Cleaning agent
 - ✚ Types of cleaning agent
 - ✚ Preparation of cleaning agent
- ✓ tools and equipment used in Cleaning
- ✓ Application of cleaning methods
 - ✚ Dry Cleaning
 - ✚ Wet cleaning
- ✓ Application of Cleaning Techniques
 - ✚ CIP
 - ✚ COP
- ✓ Cleaning Stages
- ✓ Checking cleanliness of working Area.

- **Waste Disposal**

- ✓ Purpose of waste disposal
- ✓ Types of Food Processing Waste
- ✓ Regulations of waste disposal
- ✓ Waste disposal Methods

Resources required for the indicative content

Equipment	PPE, Sink, Hand drier Machine, incinerators
Materials	Sanitizers, Disinfectants, Degreasers, SOPS, Clean Waters, Flip-chart, Markers, Pens, chalks
Tools	Basins, Bins, Mops, Squeegee, Brushes, Flip-chart stand
Facilitation techniques	• Lecturing • Demonstration and simulation

	• Individual and group work • Practical exercise • Trainer guided • Group discussion
Formative assessment methods	• Written assessment • Oral presentation • Performance assessment

Learning outcome 3. Implement food safety	Learning hours: 20
Indicative content	
• Implementation of Preventive measures for contaminants. ✓ Implementing Administrative control measures ✓ Implementing Engineering control measures ✓ Description of Controlling Exposure ✓ Application of food preservation Techniques + Cold preservation (Refrigeration and freezing) + Heat preservation (pasteurization, sterilization) + Fermentation + Using Chemical preservatives + Dehydration • Controlling pest in Food processing plant ✓ Purpose of Pest control ✓ Identification of Potential pest ✓ Application of pest control measures • Respecting Critical control point ✓ Description of CCP ✓ Identification of CCP ✓ Monitoring CCP ✓ Taking corrective action	

✓ Taking prevention measures

Resources required for the indicative content

Equipment	Air compressor ,Pasteurizer, Steriliser ,Sprayers
Materials	Detergents , Sanitizers, Water, Preservatives, CCP Guidelines, UV light Bulbs, Fumigants tables ,Insect nets, Nails ,Chalks ,Flip-charts, Pens
Tools	Traps, Bins, Hummers ,Water bath, Reference books, Summary notes, Flip-chart stand
Facilitation techniques	• Demonstration and simulation • Individual and group work • Practical exercise • Individualized • Trainer guided • Group discussion
Formative assessment methods	• Written assessment • Oral presentation • Performance assessment

References:

1. Kim, M. H., Song, H. B., Song, Y., Jeong, I. T., & Kim, J. W. (2013). Evaluation of food waste disposal options in terms of global warming and energy recovery: Korea. *International Journal of Energy and Environmental Engineering*, 4(1), 1-12.
2. Margas, E., & Holah, J. T. (2014). Personal hygiene in the food industry. In *Hygiene in Food Processing* (pp. 408-440). Woodhead Publishing.
3. Monney, I., Agyei, D., Ewoenam, B. S., Priscilla, C., & Nyaw, S. (2014). Food hygiene and safety practices among street food vendors.
4. Rather, I. A., Koh, W. Y., Paek, W. K., & Lim, J. (2017). The sources of chemical contaminants in food and their health implications. *Frontiers in pharmacology*, 8, 830.
5. Stanga, M. (2010). *Sanitation: cleaning and disinfection in the food industry*. John Wiley & Sons.
6. Trematerra, P., & Fleurat-Lessard, F. (2015). Food industry practices affecting pest management. *Stewart postharvest review*, 11(1), 1-7.
7. Vejarano, R., Siche, R., & Tesfaye, W. (2017). Evaluation of biological contaminants in foods by hyperspectral imaging: A review. *International journal of food properties*, 20(sup2), 1264-1297.
8. williams, e. n. (2017). *use of risk assessment modeling techniques to develop quantitative risk-based hazard analysis and critical control point (rb-haccp) plans* (doctoral dissertation)
9. Zeuthen, P., & Bøgh-Sørensen, L. (Eds.). (2003). *Food preservation techniques*. Elsevier.
10. Zhang, T. F., & Chen, Q. (2007). Identification of contaminant sources in enclosed environments by inverse CFD modeling. *Indoor air*, 17(3), 167-177.