

## **Short Term Training Course (STTC) “Safety and Quality in Innovative Food Production Systems”**

**Course Objectives:** To provide the knowledge on the need for greater quality assurance, and standardization in the food production systems. The STTC course emphasizes food quality control as the mechanism for the prevention of food-borne illness and food spoilage at the “farm-to-fork” level.

### **Learning Outcomes:**

Upon completion of this course, the professionals will be able to:

1. Identify hazards as well as standard regulations and procedures in agriculture, aquaculture, livestock and food processing practices
2. Analyze hazards and risks associated with food and beverage production
3. Apply the basis of safety issues in food supply chain systems.
4. Understand and apply standard laboratory protocols to maintain the food quality

**Prerequisite(s):** An understanding of the food safety systems is required.

### **Course Outlines:**

#### **I. Overview on Food Safety Issues in Food Supply Chain Systems (3 h Lectures )**

1. Food safety and quality
2. Food quality assurance
3. Principles, guidelines and potential benefits of food safety
4. Food labeling and standards

#### **II. Food Quality Management Systems (FQMS) (4 h Lectures and Case Study)**

1. Quality Management (QM) systems in food production systems
2. Management responsibilities, vision – mission - quality policy, Management tools, documentation (SOP), FSCC 22000,
3. Continuous improvement in food production systems

**III. Food Safety Management Systems (FSMS)**  
**(4 h Lectures, Case study and Group exercise)**

1. Overview on factors influencing the quality of food products
2. Good Agricultural/Aquaculture/Livestock Practices (GAP) in Primary Production
3. Good Manufacturing Practices (GMPs) in food Processing Industries
4. SOPs and Continuous Improvement Systems
5. Hazard Analysis and Critical Control Point HACCP concepts

**IV. Food Legislations and Laws**  
**(3 h Lectures, Case study and Group exercise)**

1. Fundamentals of food laws
2. Regulatory requirements and status of safety of food products in the developing countries
3. CODEX *Alimentarius*, WTO-SPS agreement and other regulatory bodies including FAO/WHO.
4. Harmonization of standards

**V. Laboratory Quality Management Systems (LQMS)**  
**(3 h Lectures)**

1. Overview of quality of laboratory in food production systems
2. Metrology and Calibration
3. Recovery test and Proficiency Performa
4. Standardized Procedures

**VI. Laboratory Safety**  
**(1 h Lecture)**

1. Safety and Health Regulations
2. Laboratory Standards

**VII. Analytical methods: Overview and Working Principles**  
**(2 h Lectures)**

1. Methods for Physical Contaminants
2. Methods for Chemical Contaminants
3. Methods for Biological Contaminants
4. Sensory Analysis and Procedures

**VIII. Auditing in food processing industries**  
**(2 h Lectures and Practice)**

1. Principles, types and methods of auditing
2. Documentation and reporting

## **IX. Laboratory Sessions (6 h):**

1. Standard Procedure for sampling methods
2. Calibration of Analytical Instruments
3. Sample analysis by Uv-Vis Spectrophotometer
4. General biotechnological tools for hazard identification

### **Learning Resources:**

Class notes and handouts will be provided.

### **Teaching and Learning Methods:**

The course will be delivered through lectures, assignments, case studies, hands-on-practice sessions and homework, during the course. Additional online information on issues related to safety, quality and environmental as well as on health impacts during food production and processing will be provided to enhance self-learning experiences.

### **Duration of course:**

6 days (5 days Lecture + 1 day Lab session)

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