Food Product Shelf-Life Determination and Testing Training Course

Professional Development Training Course Outline

Category	Food processing and Technology	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Shelf-life determination has become a critical component in the modern food industry, ensuring product safety, quality assurance, and compliance with international food safety regulations. With rising global consumer demands for healthier, sustainable, and safe food products, companies must adopt advanced scientific methods and testing protocols. Food Product Shelf-Life Determination and Testing Training Course provides in-depth knowledge and practical approaches to food product shelf-life testing, helping businesses extend market reach, improve brand trust, and remain competitive in a rapidly evolving industry.

This comprehensive training course integrates the latest methodologies in predictive microbiology, sensory evaluation, accelerated shelf-life testing, and packaging innovations. Participants will explore trending technologies, laboratory techniques, and real-world case studies to strengthen their ability to determine product viability, reduce wastage, and enhance sustainability. Designed for professionals across the food supply chain, this course empowers learners with the expertise needed to manage product stability, ensure compliance with regulatory standards, and maximize profitability.

Programme Curriculum

Food Product Shelf-Life Determination and Testing Training Course

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Course Objectives

1. Understand the principles of food product shelf-life determination.
2. Identify critical factors influencing food spoilage and deterioration.
3. Apply trending scientific methods for accelerated shelf-life testing.
4. Learn advanced sensory evaluation techniques for food quality.
5. Analyze packaging innovations and their impact on shelf-life.
6. Implement predictive microbiology for product safety assurance.
7. Explore sustainability in shelf-life management practices.
8. Develop practical laboratory skills for food stability testing.
9. Assess chemical, microbial, and physical indicators of food quality.
10. Understand global food safety regulations and compliance standards.
11. Integrate digital technologies and AI in shelf-life testing.
12. Conduct shelf-life modeling using data-driven approaches.
13. Perform real-world case studies in shelf-life testing applications.

Organizational Benefits

- Enhanced product safety and compliance with food regulations
- Reduced food waste through accurate shelf-life prediction
- Improved brand reputation and consumer trust
- Cost savings through efficient product testing methods
- Adoption of innovative packaging technologies
- Stronger alignment with sustainability goals
- Increased competitiveness in global markets
- Strengthened internal quality assurance programs
- Greater adaptability to consumer demands
- Improved decision-making through data-driven shelf-life models

Target Audiences

- Food Technologists
- Quality Assurance Managers
- Regulatory Compliance Officers
- Research and Development Scientists
- Food Production Supervisors
- Packaging Specialists
- Supply Chain Managers
- Laboratory Analysts

Course Duration: 5 days

Course Modules

Module 1: Introduction to Shelf-Life Determination

- Definition and importance of shelf-life in food products
- Overview of food spoilage mechanisms
- Key factors affecting product stability
- Industry challenges and global perspectives
- Shelf-life management strategies
- Case Study: Shelf-life issues in dairy products

Module 2: Food Spoilage and Deterioration Factors

- Microbial spoilage dynamics
- Chemical and enzymatic reactions in food decay
- Role of temperature and humidity
- Physical deterioration factors
- Emerging risks in shelf-life reduction
- Case Study: Spoilage factors in fresh produce

Module 3: Sensory Evaluation in Shelf-Life Testing

- Sensory analysis methods and protocols
- Consumer perception and food quality
- Organoleptic testing in laboratory settings
- Correlation of sensory and chemical data
- Sensory panels and statistical interpretation
- Case Study: Sensory shelf-life analysis of bakery products

Module 4: Accelerated Shelf-Life Testing

- Principles of accelerated testing
- Environmental stress simulation techniques
- Temperature and humidity control protocols
- Data interpretation and modeling
- Advantages and limitations of accelerated methods
- Case Study: Accelerated shelf-life testing in beverages

Module 5: Packaging and Shelf-Life Extension

- Role of packaging in product stability
- Active and intelligent packaging technologies
- Modified atmosphere packaging (MAP)
- Eco-friendly and sustainable packaging solutions
- Packaging performance evaluation
- Case Study: Packaging innovations in snack foods

Module 6: Predictive Microbiology in Shelf-Life

- Microbial modeling techniques
- Growth kinetics and predictive software
- Application in foodborne pathogen control

- Integration with risk assessment models
- Regulatory compliance with predictive methods
- Case Study: Predictive microbiology in meat products

Module 7: Shelf-Life Modeling and Data Analysis

- Statistical tools for shelf-life determination
- Use of AI and digital technologies
- Predictive modeling frameworks
- Data collection and validation
- Integration of multi-factor testing data
- Case Study: Data-driven shelf-life modeling in sauces

Module 8: Case Studies and Practical Applications

- Cross-industry applications in shelf-life testing
- Laboratory simulation exercises
- Comparison of real vs. accelerated results
- Troubleshooting in product testing
- Regulatory and industry best practices
- Case Study: Shelf-life testing in frozen foods

Training Methodology

- Interactive lectures with industry experts
- Hands-on laboratory demonstrations
- Group case study discussions
- Simulation exercises and modeling
- Real-world project applications

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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