Edible Oil Refining Technologies Training Course

Professional Development Training Course Outline

Category	General Training	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The Edible Oil Refining Technologies Training Course is a comprehensive, industry-focused program designed to equip participants with advanced knowledge of vegetable oil processing, oil purification systems, degumming, neutralization, bleaching, deodorization, and modern refinery automation technologies. As global demand for high-quality, safe, and nutritionally stable edible oils continues to rise, refining technologies play a critical role in ensuring compliance with food safety standards (HACCP, ISO 22000, FSSAI, FDA regulations) while optimizing production efficiency and minimizing operational costs. Edible Oil Refining Technologies Training Course provides deep insights into both physical and chemical refining processes, enabling learners to understand end-to-end refinery operations in palm oil, soybean oil, sunflower oil, rapeseed oil, and other vegetable oils.

With a strong emphasis on process optimization, sustainability, energy efficiency, and quality control, this training bridges the gap between theoretical knowledge and real-world industrial applications. Participants will explore cutting-edge innovations such as enzymatic refining, green refining technologies, continuous deodorization systems, automation in oil mills, and by-product valorization. The program is tailored for engineers, plant operators, food technologists, and quality assurance professionals aiming to enhance their expertise in modern edible oil refinery operations and agro-processing industries.

Programme Curriculum

Edible Oil Refining Technologies Training Course

Introduction

The Edible Oil Refining Technologies Training Course is a comprehensive, industry-focused program designed to equip participants with advanced knowledge of vegetable oil processing, oil purification systems, degumming, neutralization, bleaching, deodorization, and modern refinery automation technologies. As global demand for high-quality, safe, and nutritionally stable edible oils continues to rise, refining technologies play a

critical role in ensuring compliance with food safety standards (HACCP, ISO 22000, FSSAI, FDA regulations) while optimizing production efficiency and minimizing operational costs. Edible Oil Refining Technologies Training Course provides deep insights into both physical and chemical refining processes, enabling learners to understand end-to-end refinery operations in palm oil, soybean oil, sunflower oil, rapeseed oil, and other vegetable oils.

With a strong emphasis on process optimization, sustainability, energy efficiency, and quality control, this training bridges the gap between theoretical knowledge and real-world industrial applications. Participants will explore cutting-edge innovations such as enzymatic refining, green refining technologies, continuous deodorization systems, automation in oil mills, and by-product valorization. The program is tailored for engineers, plant operators, food technologists, and quality assurance professionals aiming to enhance their expertise in modern edible oil refinery operations and agro-processing industries.

Course Duration

5 days

Course Objectives

1. Understand end-to-end edible oil refining processes and industrial workflows
2. Master degumming, neutralization, bleaching, and deodorization technologies
3. Apply food-grade safety standards (HACCP, ISO 22000, GMP) in oil refining
4. Optimize energy-efficient refining systems and sustainability practices
5. Analyze crude oil quality parameters and testing methods
6. Improve yield optimization and process efficiency in oil refineries
7. Learn advanced automation and PLC-based refinery control systems
8. Understand physical vs chemical refining technologies comparison
9. Identify and reduce refining losses and free fatty acid (FFA) levels
10. Implement waste management and by-product utilization strategies
11. Explore green and enzymatic refining innovations
12. Develop skills in quality assurance and laboratory oil testing techniques
13. Enhance decision-making in industrial edible oil production systems

Target Audience

1. Food Processing Engineers
2. Chemical Engineers in Oil & Fats Industry
3. Plant Managers & Production Supervisors
4. Quality Assurance & Quality Control Professionals
5. Agricultural Processing Entrepreneurs
6. Oil Mill Operators and Technicians
7. Food Technology Students & Researchers
8. Supply Chain & Production Planning Professionals

Course Modules

Module 1: Introduction to Edible Oil Industry & Raw Materials

- Global edible oil market trends and demand drivers
- Types of vegetable oils
- Crude oil extraction processes overview

- Physicochemical properties of oils
- **Case Study:** Palm oil supply chain optimization in Southeast Asia refinery

Module 2: Degumming Technologies

- Water degumming vs acid degumming
- Phospholipid removal techniques
- Enzymatic degumming innovations
- Equipment used in degumming units
- **Case Study:** Soybean oil enzymatic degumming efficiency improvement

Module 3: Neutralization Processes

- Chemical neutralization of free fatty acids (FFA)
- Alkali refining systems
- Soapstock formation and handling
- Process optimization for yield improvement
- **Case Study:** Reduction of oil loss in sunflower oil neutralization plant

Module 4: Bleaching Technology

- Adsorbents used in bleaching
- Color pigment removal mechanisms
- Filtration systems in bleaching operations
- Process control parameters
- **Case Study:** Quality enhancement in rapeseed oil bleaching unit

Module 5: Deodorization Systems

- Steam stripping techniques
- High vacuum deodorization systems
- Removal of odoriferous compounds
- Thermal stability considerations
- **Case Study:** Energy-efficient deodorization in palm oil refinery

Module 6: Physical Refining Technologies

- Dry refining vs chemical refining
- Process advantages and limitations
- Application in high FFA oils
- Process integration techniques
- **Case Study:** Physical refining of palm oil for export markets

Module 7: Automation & Process Control

- PLC and SCADA systems in oil refineries
- Real-time monitoring systems
- Digital twin and Industry 4.0 applications
- Process optimization algorithms
- **Case Study:** Smart refinery automation reducing operational cost by 18%

Module 8: Quality Control & By-Product Management

- Laboratory testing of refined oil quality
- Oxidation stability and shelf-life analysis
- By-products-soapstock, lecithin, fatty acids utilization
- Waste minimization strategies
- **Case Study:** Value addition from soapstock in biodiesel production

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

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

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com