Extrusion Technology for Food and Feed Manufacturing 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

Extrusion technology has become one of the most advanced and efficient processes in modern food and feed manufacturing. This versatile processing method is used for producing snacks, breakfast cereals, pet food, aquafeed, and fortified products. With its ability to enhance texture, improve digestibility, and increase nutritional value, extrusion technology is a vital area of focus for food and feed manufacturers who seek to remain competitive in a rapidly evolving global market. Integrating automation, quality control, and sustainable practices within extrusion operations ensures higher productivity, reduced costs, and enhanced consumer satisfaction.

Extrusion Technology for Food and Feed Manufacturing Training Course provides a comprehensive understanding of extrusion principles, equipment design, raw material selection, product formulation, and quality assurance. It addresses both theoretical knowledge and practical insights, emphasizing innovative extrusion solutions that align with current industry demands. Participants will gain skills in troubleshooting, process optimization, sustainability practices, and advanced product development for food and feed manufacturing. Through real-world case studies and interactive sessions, the course prepares professionals to deliver superior performance while meeting industry standards and global market trends.

Programme Curriculum

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Course Objectives

1. Understand fundamental extrusion principles and applications in food and feed manufacturing.
2. Analyze raw material properties and their effects on extrusion performance.
3. Explore extrusion equipment design, operation, and maintenance.
4. Apply extrusion for producing value-added food and feed products.
5. Optimize process parameters for enhanced efficiency and quality.
6. Evaluate product texture, appearance, and nutritional profile.
7. Implement quality assurance and food safety in extrusion processes.
8. Learn sustainable and energy-efficient extrusion practices.
9. Integrate automation and digital technologies in extrusion systems.
10. Gain practical skills in extrusion troubleshooting and problem-solving.
11. Apply extrusion technology in pet food and aquafeed manufacturing.
12. Explore emerging extrusion innovations and industry trends.
13. Develop customized extrusion-based products for market competitiveness.

Organizational Benefits

- Improved production efficiency and throughput.
- Enhanced product consistency and quality.
- Greater adaptability to market trends and consumer preferences.
- Integration of sustainability and cost reduction strategies.
- Strengthened food safety and compliance with regulations.
- Increased staff technical expertise and problem-solving skills.
- Reduced downtime through proactive maintenance strategies.
- Competitive edge through innovation and new product development.
- Application of automation for optimized manufacturing.
- Long-term organizational growth and improved ROI.

Target Audiences

- Food technologists and engineers
- Feed mill operators and managers
- Quality assurance professionals
- Product development specialists
- Animal nutritionists and aquafeed formulators
- Plant supervisors and production managers

- Research and development teams
- Entrepreneurs and investors in food and feed processing

Course Duration: 5 days

Course Modules

Module 1: Introduction to Extrusion Technology

- Principles of extrusion processing
- Applications in food and feed manufacturing
- Types of extruders and their functions
- Impact of extrusion on product structure
- Industry relevance and global trends
- Case study: Extrusion in breakfast cereal production

Module 2: Raw Materials and Ingredients

- Properties of starch, protein, and fiber in extrusion
- Moisture content and preconditioning effects
- Ingredient selection for feed applications
- Nutritional impacts of extrusion on raw materials
- Functional ingredients in extruded foods
- Case study: Protein enrichment in snack extrusion

Module 3: Extrusion Equipment and Design

- Extruder components and configurations
- Single-screw vs. twin-screw extruders
- Die design and shaping techniques
- Maintenance and wear management
- Energy efficiency in equipment usage
- Case study: Twin-screw extruders for aquafeed

Module 4: Process Parameters and Control

- Temperature, pressure, and shear effects
- Process optimization for product quality
- Moisture management in extrusion
- Monitoring systems and controls
- Troubleshooting operational challenges
- Case study: Process optimization in pet food production

Module 5: Product Development in Extrusion

- Innovative extruded food products
- Feed and aquafeed formulations
- Functional and fortified foods
- Texture, taste, and appearance considerations
- Market-driven product customization
- Case study: Fortified extruded snacks for nutrition programs

Module 6: Quality Assurance and Food Safety

- Standards and certifications in extrusion
- Microbial safety and control measures
- Testing and quality monitoring tools
- HACCP implementation in extrusion plants
- Preventing contamination in extruders
- Case study: HACCP compliance in feed extrusion

Module 7: Sustainability in Extrusion Technology

- Energy-efficient extrusion practices
- Water and resource optimization
- Sustainable sourcing of raw materials
- Waste reduction in extrusion processes
- Green manufacturing and eco-labels
- Case study: Sustainable aquafeed production

Module 8: Future Trends and Innovations

- Digital technologies and automation in extrusion
- Advanced formulations for specialized markets
- 3D printing and extrusion applications
- Novel protein sources in extrusion (insects, algae)
- Global market insights and emerging opportunities
- Case study: Innovative plant-based extruded products

Training Methodology

- Interactive lectures and expert-led discussions
- Practical case study analysis for real-world application
- Hands-on sessions with extrusion simulations
- Group exercises and collaborative problem-solving
- Multimedia presentations and industry examples
- Post-training evaluation and knowledge assessment

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

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