Marine Animal Nutrition Training Course

Professional Development Training Course Outline

Category	Veterinary and Animal Science	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Marine Animal Nutrition Training Course is designed to provide advanced knowledge in aquaculture nutrition, marine feed technology, sustainable seafood production, functional feed formulation, and precision aquaculture systems. With rapid expansion in global aquaculture and increasing demand for high-performance feed solutions, alternative protein sources, nutrigenomics, and sustainable marine resource management, this course equips professionals with cutting-edge expertise to optimize growth performance, health management, and feed efficiency in marine species. Participants gain practical insights into feed formulation software, bioenergetics modeling, micro- and macro-nutrient optimization, and environmentally responsible feed strategies aligned with global sustainability standards.

This training integrates scientific research, real-world case studies, data-driven nutrition planning, and emerging innovations such as AI in aquaculture and smart feeding systems. It addresses key challenges including feed cost optimization, disease resistance through functional nutrition, marine ecosystem impact reduction, and circular bioeconomy practices. By combining theoretical foundations with hands-on application, the program prepares participants to lead in sustainable aquaculture development, marine conservation nutrition programs, commercial hatchery operations, and seafood value chain enhancement, ensuring both economic viability and environmental stewardship.

Programme Curriculum

Marine Animal Nutrition Training Course

Introduction

Marine Animal Nutrition Training Course is designed to provide advanced knowledge in aquaculture nutrition, marine feed technology, sustainable seafood production, functional feed formulation, and precision aquaculture systems. With rapid expansion in global aquaculture and increasing demand for high-performance feed

solutions, alternative protein sources, nutrigenomics, and sustainable marine resource management, this course equips professionals with cutting-edge expertise to optimize growth performance, health management, and feed efficiency in marine species. Participants gain practical insights into feed formulation software, bioenergetics modeling, micro- and macro-nutrient optimization, and environmentally responsible feed strategies aligned with global sustainability standards.

This training integrates scientific research, real-world case studies, data-driven nutrition planning, and emerging innovations such as AI in aquaculture and smart feeding systems. It addresses key challenges including feed cost optimization, disease resistance through functional nutrition, marine ecosystem impact reduction, and circular bioeconomy practices. By combining theoretical foundations with hands-on application, the program prepares participants to lead in sustainable aquaculture development, marine conservation nutrition programs, commercial hatchery operations, and seafood value chain enhancement, ensuring both economic viability and environmental stewardship.

Course Duration

5 days

Course Objectives

1. Understand Advanced Aquaculture Nutrition Science and marine species dietary requirements.
2. Develop expertise in Sustainable Feed Formulation & Alternative Protein Sources (insect meal, algae, single-cell protein).
3. Apply Precision Feeding Technologies & Smart Aquaculture Systems.
4. Master Nutrigenomics and Functional Feed Development for disease resistance.
5. Optimize Feed Conversion Ratio (FCR) & Growth Performance Analytics.
6. Implement Bioenergetics Modeling & Metabolic Energy Budgeting.
7. Design Eco-Friendly, Low-Carbon Aquafeed Strategies.
8. Evaluate Marine Larval Nutrition & Hatchery Feed Innovations.
9. Integrate AI-Driven Feed Management & Data Analytics in Aquaculture.
10. Improve Fish Health Management through Immunonutrition.
11. Conduct Feed Quality Assurance & HACCP Compliance in marine feed mills.
12. Apply Circular Economy Principles in Marine Feed Production.
13. Develop Research-Based Marine Nutrition Programs for Commercial Aquaculture Enterprises.

Target Audience

1. Aquaculture Farm Managers
2. Marine Biologists & Aquatic Scientists
3. Feed Mill Technologists
4. Fisheries & Hatchery Supervisors
5. Seafood Production Entrepreneurs
6. Animal Nutrition Consultants
7. Marine Conservation Professionals
8. Aquaculture Researchers & Postgraduate Students

Course Modules

Module 1: Foundations of Marine Animal Nutrition

- Marine species digestive physiology

- Macronutrient & micronutrient requirements
- Protein-energy ratios in carnivorous marine fish
- Lipid metabolism & omega-3 fatty acids
- **Case Study:** Optimizing protein levels in seabass farming to reduce feed costs

Module 2: Feed Ingredients & Alternative Proteins

- Fishmeal replacement strategies
- Insect meal & black soldier fly applications
- Microalgae & single-cell proteins
- Plant-based marine feed innovations
- **Case Study:** Replacing 30% fishmeal with algae protein in shrimp diets

Module 3: Feed Formulation & Processing Technology

- Least-cost formulation software
- Extrusion technology in aquafeed production
- Pellet water stability analysis
- Nutrient digestibility trials
- **Case Study:** Improving pellet durability index in marine cages

Module 4: Larval & Broodstock Nutrition

- Live feed enrichment (Artemia, rotifers)
- DHA/EPA enrichment strategies
- Early-stage metabolic programming
- Broodstock reproductive nutrition
- **Case Study:** Enhancing larval survival rates in hatchery operations

Module 5: Functional Nutrition & Immunity

- Probiotics & prebiotics in aquaculture
- Immunostimulants & disease resistance
- Phytogenic feed additives
- Mycotoxin management
- **Case Study:** Functional feeds reducing Vibrio outbreaks in shrimp farms

Module 6: Precision Feeding & Smart Aquaculture

- Automated feeding systems
- AI-based growth prediction
- Real-time feed monitoring sensors
- Feed efficiency analytics
- **Case Study:** Smart feeding reducing FCR by 15% in offshore cages

Module 7: Sustainability & Environmental Impact

- Carbon footprint of marine feed
- Waste reduction & nutrient runoff control
- Circular bioeconomy in aquaculture
- ESG compliance in seafood production
- **Case Study:** Implementing sustainable feed strategies in recirculating aquaculture systems (RAS)

Module 8: Quality Control & Regulatory Standards

- HACCP in feed mills
- Feed safety & contaminant control
- Global aquaculture certification standards
- Traceability & blockchain in seafood supply chain
- **Case Study:** Achieving international feed safety certification for export markets

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