



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

Tel: +27 12 004 8389 · Mobile: +27 65 077 6310

Email: apply@aaticd.co.za · Website: www.aaticd.co.za

COURSE BROCHURE

Advanced Dry Pet Food Extrusion Equipment Operation And Control Training

Agriculture and Nature Conservation / Secondary Agriculture

Unit Standard 116043 · NQF Level 4 · 8 Credits · 5 Days

COURSE OVERVIEW

This course equips learners with advanced skills to operate and control dry pet food extrusion equipment effectively. Participants will master process parameters, troubleshooting, and quality control in a manufacturing environment.

Category	Agriculture and Nature Conservation
Subfield	Secondary Agriculture
Unit Standard	116043
Accreditation	SAQA Accredited · NQF Level 4 · 8 Credits
Duration	5 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply advanced extrusion principles to optimize dry pet food production processes.
- Analyze process data to identify and correct deviations in product quality.
- Evaluate equipment performance and implement preventive maintenance procedures.
- Design process adjustments to enhance efficiency and reduce waste.
- Implement safety protocols and quality assurance measures during extrusion operations.
- Demonstrate proficiency in controlling temperature, pressure, and moisture parameters.

WHO SHOULD ATTEND

- This course is designed for experienced extrusion operators, production supervisors, and maintenance technicians in the pet food manufacturing industry.

COURSE OUTLINE

Day 1: Fundamentals of Extrusion Technology and Equipment

- Overview of extrusion in pet food manufacturing.
- Types of extruders: single-screw vs. twin-screw.
- Components: barrel, screw, die, cutter.
- Preconditioning: steam and water addition.
- Basic process flow: mixing, conveying, extrusion, drying.
- Safety: lockout/tagout, PPE, emergency stops.
- Introduction to control systems and sensors.
- Quality parameters: density, shape, texture.

Day 2: Process Control and Parameter Optimization

- Temperature zones and control strategies.
- Pressure measurement and die restriction.
- Moisture control: steam and water injection.
- Screw configuration and speed effects.
- Feed rate and residence time.
- Data logging and trend analysis.
- Troubleshooting: surging, bridging, burning.
- Hands-on: adjusting parameters on simulator.

Day 3: Product Quality, Formulation, and Nutrition

- Ingredient functionality: starches, proteins, fats.
- Effect of particle size and moisture on expansion.
- Measuring product density and expansion ratio.
- Kibble shape, size, and durability testing.
- Nutritional requirements: energy, digestibility.
- Vitamin and mineral stability during extrusion.
- Sampling and rapid quality tests.
- Hands-on: adjusting recipe and evaluating output.

Day 4: Maintenance, Hygiene, and Troubleshooting

- Preventive maintenance schedule: wear parts, lubrication.
- Screw and barrel wear assessment.
- Cleaning procedures: wet and dry cleaning.
- Sanitation: allergen control, microbiological risks.
- Common faults: motor overload, plugging, die wear.
- Systematic troubleshooting approach.
- Spare parts management.
- Hands-on: disassembly, inspection, reassembly.

Day 5: Advanced Control, Automation, and Integration

- PLC programming basics for extruder control.
- HMI operation: alarms, recipes, trends.
- Integration with mixer, dryer, coater.
- Automated start-up and shut-down sequences.
- Energy efficiency and waste reduction.

- Statistical process control (SPC).
- Lean manufacturing principles.
- Final assessment and certification.

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **8 NQF credits** at **NQF Level 4**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 23,000.00	R 23,000.00
1	In-House	R 29,900.00	R 29,900.00
1	On-Campus (Pretoria)	R 34,500.00	R 34,500.00

UPCOMING SESSIONS

Start	End	Method	Venue
03 Aug 2026	07 Aug 2026	On-Campus	Pretoria, South Africa
03 Aug 2026	07 Aug 2026	On-Campus	Dubai, UAE
03 Aug 2026	07 Aug 2026	On-Campus	Cape Town, South Africa
03 Aug 2026	07 Aug 2026	On-Campus	Mauritius
03 Aug 2026	07 Aug 2026	On-Campus	Johannesburg, South Africa
03 Aug 2026	07 Aug 2026	On-Campus	Lagos, Nigeria
10 Aug 2026	14 Aug 2026	On-Campus	Mauritius
10 Aug 2026	14 Aug 2026	On-Campus	Cape Town, South Africa

Contact us if no suitable date is listed – on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 116043) and click **Get A Quote / Apply**. Select your training method and number of delegates – your quotation is generated immediately and emailed to you with the course brochure attached.
2. **Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to apply@aaticd.co.za – our team will reply with a formal quotation.
3. **Apply by phone or WhatsApp:** call **+27 12 004 8389** or WhatsApp **+27 65 077 6310** and we will prepare your quotation and reserve your seats.
4. **Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically – the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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