



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@aatikd.co.za · Website: www.aatikd.co.za

COURSE BROCHURE

Beverage Pot-Still Batch Distillation Plant Operation

Manufacturing, Engineering and Technology / Manufacturing and Assembly

Unit Standard 259319 · NQF Level 3 · 25 Credits · 22 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to safely and efficiently operate a beverage pot-still (batch) distillation plant. It covers start-up, monitoring, shutdown, and troubleshooting procedures in compliance with relevant regulations and quality standards.

Category	Manufacturing, Engineering and Technology
Subfield	Manufacturing and Assembly
Unit Standard	259319
Accreditation	SAQA Accredited · NQF Level 3 · 25 Credits
Duration	22 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Demonstrate the safe start-up, operation, and shutdown of a pot-still distillation plant.
- Monitor and control process parameters (temperature, pressure, flow) to maintain product quality.
- Apply quality control procedures to ensure the distillate meets specified standards.
- Identify and respond to operational deviations and emergencies using standard procedures.
- Implement cleaning and sanitation protocols in line with food safety requirements.
- Evaluate plant performance and recommend process improvements.

WHO SHOULD ATTEND

- Distillery operators, process technicians, and production supervisors involved in the operation of pot-still distillation equipment in the beverage alcohol industry.

COURSE OUTLINE

Day 1: Introduction to Pot-Still Distillation

- Overview of distilled beverage production
- Principles of batch distillation
- Anatomy of a pot-still: boiler, column, condenser, spirit safe
- Raw materials and fermentation basics
- Safety equipment and procedures
- Introduction to distillation cycles

Day 2: Distillation Theory and Chemistry

- Phase diagrams and boiling point curves
- Ethanol-water azeotrope
- Reflux ratio and its control
- Congener profiles and flavor development
- Material and energy balance basics
- Calculation exercises

Day 3: Plant Components and Function

- Boiler design and heating methods (direct/indirect)
- Column types and packing materials
- Condenser types: shell-and-tube, coil, etc.
- Spirit safe and collection vessels
- Instrumentation and control devices
- Material selection: copper, stainless steel, etc.

Day 4: Pre-Operation Checks and Safety

- Safety protocols: lockout/tagout, PPE, emergency procedures
- Inspection of boiler, seals, and connections
- Cleaning procedures and sanitation
- Calibration of thermometers and hydrometers
- Leak detection and pressure testing
- Documentation and checklists

Day 5: Startup and Operation Procedures

- Step-by-step startup procedure
- Heating control: gas, electric, steam
- Phases of distillation: foreshots, heads, hearts, tails
- Cut points and sensory evaluation
- Cooling system management
- Data logging and record keeping

Day 6: Process Control and Optimization

- Reflux ratio adjustment techniques
- Energy management and heat recovery
- Parameter tuning for various beverages
- Troubleshooting: causes and solutions
- Process optimization strategies

- Case studies

Day 7: Quality Control and Sensory Evaluation

- Sensory analysis techniques
- Alcohol measurement instruments
- Congener analysis and flavor profiling
- Quality standards for different spirits
- Dilution calculations and water quality
- Record keeping for quality control

Day 8: Cleaning and Maintenance

- CIP procedures and cleaning agents
- Daily, weekly, and monthly maintenance schedules
- Inspection of boiler, column, condenser
- Replacement of worn parts
- Lubrication and corrosion prevention
- Maintenance logs

Day 9: Advanced Distillation Techniques

- Double distillation process
- Fractional distillation in pot stills
- High-proof spirit production
- Energy and time management
- Comparison of single vs. double distillation
- Case studies of premium spirits

Day 10: Troubleshooting and Problem Solving

- Common problems: low yield, off-flavors, slow run
- Root cause analysis techniques
- Corrective actions and adjustments
- Preventive maintenance strategies
- Troubleshooting case studies
- Reporting and documentation

Day 11: Regulatory Compliance and Standards

- SAQA unit standard requirements
- Occupational Health and Safety Act
- Environmental management: waste, emissions
- Product labeling and traceability
- Audit preparation and documentation
- Code of practice for beverage distillation

Day 12: Water Treatment and Utilities

- Water quality parameters: hardness, pH, minerals
- Water treatment methods: filtration, softening, reverse osmosis
- Utility systems overview
- Energy efficiency in utilities
- Water conservation techniques
- Monitoring and recording utility data

Day 13: Spirit Maturation and Blending

- Oak cask types and toasting levels
- Chemical reactions: extraction, oxidation, evaporation
- Blending techniques and recipes
- Sensory evaluation of blends
- Inventory management and cask tracking
- Quality control in maturation

Day 14: Automation and Instrumentation

- Automation in batch distillation
- PLC programming basics for distillation
- SCADA systems and HMI
- Sensor types: temperature, pressure, flow
- Calibration procedures
- Troubleshooting automation faults

Day 15: Energy Management and Sustainability

- Energy audit methods
- Heat recovery systems
- Insulation and process optimization
- Renewable energy: solar, biomass
- Waste minimization and recycling
- Sustainability reporting

Day 16: Production Planning and Scheduling

- Batch scheduling techniques
- Raw material inventory management
- Capacity planning and optimization
- Labour allocation
- Production planning software
- Case studies

Day 17: Health, Safety, and Environment (HSE) Management

- HSE management system elements
- Risk assessment methodologies
- Emergency response plans
- Incident investigation and reporting
- Safety culture and training
- Legislative requirements

Day 18: Record Keeping and Documentation

- Production log templates
- Quality control documentation
- Traceability systems
- Report writing
- Electronic document management
- Compliance documentation

Day 19: Capstone Project – Plant Operation Simulation

- Simulation software or role-play
- Batch planning and execution
- Real-time decision making
- Quality control and adjustment
- Team coordination
- Presentation and debrief

Day 20: Assessment and Course Review

- Written examination
- Practical assessment tasks
- Review of learning outcomes
- Feedback session
- Certification process
- Continuous professional development plan

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 **25 NQF credits** at **NQF Level 3**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 66,600.00	R 66,600.00
1	In-House	R 86,600.00	R 86,600.00
1	On-Campus (Pretoria)	R 99,900.00	R 99,900.00

UPCOMING SESSIONS

Start	End	Method	Venue
31 Jul 2026	31 Aug 2026	On-Campus	Dar es Salaam, Tanzania
03 Aug 2026	01 Sep 2026	On-Campus	Johannesburg, South Africa
04 Aug 2026	02 Sep 2026	On-Campus	Mauritius
05 Aug 2026	03 Sep 2026	On-Campus	Cape Town, South Africa
06 Aug 2026	04 Sep 2026	On-Campus	Dubai, UAE
07 Aug 2026	07 Sep 2026	On-Campus	Pretoria, South Africa
07 Aug 2026	07 Sep 2026	On-Campus	Lagos, Nigeria
10 Aug 2026	08 Sep 2026	On-Campus	Mauritius

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 259319) 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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