Advanced Coffee Technology and Quality Control Training Course

Professional Development Training Course Outline

Category	Food processing and Technology	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Coffee remains one of the most consumed beverages globally, with the specialty coffee industry continuing to expand rapidly. To maintain a competitive advantage in today?ÇÖs dynamic coffee market, professionals require advanced knowledge in coffee technology, quality control systems, and sustainable practices. Advanced Coffee Technology and Quality Control Training Course equips participants with the latest scientific, technological, and quality management insights to improve productivity, enhance sensory evaluation, and ensure international compliance standards. With strong emphasis on innovation, advanced brewing science, roasting technology, and quality assurance, the course is designed to empower learners with practical skills that drive both operational excellence and customer satisfaction.

In an industry driven by consumer demand for premium quality, sustainability, and authenticity, mastering coffee technology and quality control has become indispensable. This course offers participants a holistic understanding of advanced coffee processing techniques, sensory profiling, laboratory testing, traceability, and sustainability practices. Learners will gain the ability to optimize production, implement effective quality control systems, and strengthen brand credibility in global markets. With a focus on applied knowledge, trending technologies, and real-world case studies, the program prepares professionals to meet the challenges of modern coffee production and certification requirements.

Programme Curriculum

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Course Objectives

1. Understand advanced coffee processing techniques with global market relevance.
2. Analyze coffee quality using professional sensory evaluation and cupping protocols.
3. Apply quality control systems across green coffee, roasting, and brewing stages.
4. Implement international coffee standards and compliance regulations.
5. Develop sustainable coffee production strategies with traceability.
6. Use advanced roasting technology to improve flavor development.
7. Integrate innovative brewing technologies for quality consistency.
8. Optimize supply chain processes in coffee technology.
9. Perform scientific laboratory testing for defect identification.
10. Apply digital transformation in coffee production monitoring.
11. Enhance customer satisfaction through consistent quality control.
12. Evaluate global coffee trends influencing technology and quality.
13. Strengthen operational excellence with data-driven decision-making.

Organizational Benefits

- Enhanced production efficiency and reduced losses.
- Improved quality consistency across coffee batches.
- Increased compliance with international certification standards.
- Better traceability and transparency in coffee value chains.
- Strengthened sustainability practices for brand reputation.
- Enhanced team expertise in sensory analysis and technology.
- Increased customer loyalty through superior coffee quality.
- Reduced risks of product recalls or quality complaints.
- Improved profitability through optimized roasting and brewing processes.
- Stronger competitive positioning in global coffee markets.

Target Audiences

- Coffee producers and farmers.
- Quality control managers.
- Coffee roasters and baristas.
- Coffee exporters and importers.

- Food scientists and technologists.
- Coffee certification and compliance officers.
- Supply chain and operations managers.
- Coffee entrepreneurs and brand owners.

Course Duration: 10 days

Course Modules

Module 1: Fundamentals of Advanced Coffee Technology

- Introduction to coffee science and global industry trends.
- Overview of coffee value chains.
- Principles of quality assurance.
- Advanced technological innovations in coffee.
- Sustainability considerations.
- Case study: Emerging technologies in specialty coffee.

Module 2: Coffee Processing Techniques

- Primary processing methods: wet, dry, honey.
- Advanced fermentation methods.
- Impact of processing on flavor profiles.
- Post-harvest handling.
- Quality control in processing.
- Case study: Experimental processing methods in Latin America.

Module 3: Sensory Evaluation and Cupping

- Coffee tasting protocols.
- Sensory profiling for quality grading.
- Flavor wheel and defect identification.
- Calibration techniques.
- Sensory data analysis.
- Case study: Specialty coffee grading in Ethiopia.

Module 4: Green Coffee Quality Control

- Green bean grading systems.
- Physical and chemical analysis.
- Defect classification and prevention.
- Storage and logistics for green coffee.
- Traceability systems.
- Case study: Quality control in Colombian cooperatives.

Module 5: Advanced Roasting Technology

- Principles of roasting chemistry.
- Profiles and curve management.
- Roast defects and prevention.
- Automation in roasting.
- Quality consistency in production roasting.

- Case study: Large-scale roasting plants.

Module 6: Brewing Science and Technology

- Brewing variables and extraction science.
- Espresso technology and pressure dynamics.
- Filter brewing innovations.
- Water quality management.
- Equipment calibration and maintenance.
- Case study: Specialty coffee brewing innovations in Asia.

Module 7: Coffee Laboratory Testing

- Moisture content analysis.
- Density and screen size testing.
- Microbiological and chemical testing.
- Use of refractometers and TDS meters.
- Data interpretation for quality assurance.
- Case study: Laboratory analysis in international certification.

Module 8: Coffee Certification Standards

- Fair Trade, Rainforest Alliance, and Organic certifications.
- ISO and HACCP compliance.
- Legal regulations in global coffee trade.
- Auditing and inspection systems.
- Documentation for compliance.
- Case study: Certification success stories from Africa.

Module 9: Digital Transformation in Coffee Industry

- IoT applications in coffee production.
- AI and data analytics for quality monitoring.
- Blockchain for traceability.
- Automation in supply chain.
- Benefits of digital adoption.
- Case study: Blockchain use in specialty coffee exports.

Module 10: Sustainability in Coffee Technology

- Environmental impact assessment.
- Carbon footprint reduction.
- Waste management innovations.
- Social sustainability practices.
- Circular economy in coffee production.
- Case study: Sustainable practices in Costa Rica.

Module 11: Supply Chain Optimization

- Coffee logistics and warehousing.
- Demand forecasting.
- Supplier relationship management.

- Risk management in coffee supply chains.
- Lean operations in coffee industry.
- Case study: Efficient supply chain models in Brazil.

Module 12: Advanced Brewing Equipment and Maintenance

- Latest brewing equipment technologies.
- Preventive maintenance protocols.
- Calibration standards.
- Troubleshooting techniques.
- Safety compliance.
- Case study: Equipment lifecycle management in European caf??s.

Module 13: Customer Experience and Coffee Quality

- Linking quality control to customer satisfaction.
- Developing customer loyalty programs.
- Coffee storytelling and branding.
- Consumer feedback integration.
- Market differentiation strategies.
- Case study: Premium brand strategies in specialty coffee.

Module 14: Global Coffee Market Trends

- Specialty coffee consumption patterns.
- Emerging markets for premium coffee.
- Coffee pricing and futures.
- Impact of climate change on supply.
- Innovations in coffee retailing.
- Case study: Global demand trends in Asia-Pacific.

Module 15: Capstone Project on Coffee Technology and Quality

- Group research and presentation.
- Application of advanced roasting techniques.
- Practical sensory analysis session.
- Designing a quality control system.
- Evaluation of sustainability practices.
- Case study: Comprehensive quality control implementation.

Training Methodology

- Interactive lectures and multimedia presentations.
- Hands-on practical demonstrations in coffee labs.
- Group discussions and collaborative learning.
- Real-world case study analysis and role-plays.
- Field visits to coffee processing and roasting facilities.
- Final capstone project with performance 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	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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

Register Online Now

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