CORE CONCEPT

Coffee Roastery Operations Course: Roast Profiling, Blending, Cupping QC and Roastery P&L

20 – 24 December 2026
Dammam - Eastern Province five-star

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Introduction:

Coffee roastery operations, covering roast profiling, blending, cupping QC and roastery P&L, is a 1-week course for roastery owners, roast masters, production and QC staff, ending with a Roastery Production and Quality Plan for a case roastery. Growing roasteries lose margin and customers when roast curves drift between batches, blends shift from week to week, packs go stale before sale and the true cost per kilogram is unknown. Nominees already run roasters or release batches and learn through case studies on roast logs, cupping sheets and cost records. CoreConcept Training Center delivers this coffee roastery operations course.

Course Objectives:

- Inspect incoming green coffee lots for moisture, water activity, density and defects and set warehouse rules that protect each lot before roasting
- Operate drum and fluid-bed roasters through the drying, Maillard and development phases using charge temperature, gas and airflow settings
- Design and document roast profiles per origin using rate of rise, development time ratio and roast colour readings
- Build and maintain coffee blends with component ratios, pre-blend or post-blend roasting choices and blend consistency checks
- Release roasted batches through cupping, roast defect diagnosis, degassing control and valve-bag or nitrogen-flushed packaging
- Calculate roastery cost per kg including roast loss, energy, labour and packaging, and control chaff, afterburner and fire hazards on the roasting floor

Target Audience:

- Owners and general managers responsible for the output, margins and growth of commercial coffee roasteries
- Roast leads responsible for roast profiles, batch scheduling and roaster settings
- Quality staff responsible for green coffee intake checks, cupping panels and batch release
- Production supervisors responsible for packing lines, degassing stock and dispatch
- Managers responsible for in-house roasting units within cafe groups, hotel chains and food distributors

Course Outline:

Day 1: Roastery Operating Model, Green Coffee Intake and Current-State Review

- Roastery Process Flow Map From Green Intake to Dispatch
- Green Coffee Receiving Checklist for Moisture and Water Activity
- Bean Density and Screen Sampling Before Roast Planning
- Green Coffee Warehouse Rules for Humidity, Pallets and Lot Rotation
- Roastery Baseline Audit of Roast Logs, Complaints and Yields

Day 2: Roaster Technology and the Science of Roast Phases

- Drum Roaster Heat Transfer by Conduction, Convection and Radiation
- Fluid-Bed Hot-Air Roaster Operation Compared With Drum Batches
- Drying, Maillard and Development Phase Markers on the Curve
- First Crack and Second Crack Audible Cues and Bean Temperature
- Roast Logging Software and Bean Probe Data Logger Setup

Day 3: Roast Profiling, Colour Measurement and Blend Design

- Rate of Rise Control With Gas and Airflow Changes
- Development Time Ratio Targets for Filter and Espresso Roasts
- Roast Colour Meter Readings for Whole Bean and Ground
- Origin Roast Profile Sheets by Density and Processing Method
- Blend Recipe Cards for Pre-Blend and Post-Blend Roasting

Day 4: Cupping Release, Packaging Shelf Life and Roastery Hazards

- Batch Release Cupping Table With Roast Defect Descriptors
- Roast Defect Diagnosis of Baked, Underdeveloped and Scorched Batches
- Degassing Hold Times and One-Way Valve Bag Packing
- Nitrogen Flushing, Residual Oxygen Checks and Shelf-Life Coding
- Chaff Collector Cleaning, Afterburner Checks and Roaster Fire Response

Day 5: Case Study Build of the Roastery Production and Quality Plan

- Case Roastery Briefing With Roast Logs and Complaint Records
- Roastery Cost per Kg Model With Roast Loss and Energy
- Case Blend Consistency Plan and Roast Schedule by Batch Size
- Case QC Release Procedure and Packaging Shelf-Life Rules
- Roastery Production and Quality Plan Completion

Skills You Will Gain:

- Green Coffee Intake Inspection
- Roaster Operation
- Roast Curve Analysis
- Roast Colour Measurement
- Blend Formulation
- Batch Release Cupping
- Coffee Packaging Control
- Roastery Cost Modelling

Why Attend This Course:

- Deliver a Roastery Production and Quality Plan for a case roastery to the owner or operations head who approves roasting capacity and quality budgets
- Decide whether a roasted batch is released, re-blended or downgraded on the evidence of roast curve, colour reading and cupping notes
- Avoid stale packs, inconsistent blends, chaff fires and margin loss from unpriced roast shrinkage
- Coach junior roasters and packing staff with profile sheets, release checklists and degassing rules

Conclusion:

Back at work, the participant hands the roastery owner, the head roaster and the quality lead a Roastery Production and Quality Plan containing intake rules, origin roast profiles, blend recipe cards, a batch release procedure, packaging and shelf-life rules, a safety checklist and a cost per kg model. Management uses it to approve roast schedules, capacity investment and wholesale price lists. After the first month of production under the plan, the team should review roast curve deviations, rejected batches, customer complaints and actual roast loss against the model before revising profiles or prices.

Frequently Asked Questions FAQ:

What should participants know before the coffee roastery operations course?

Participants should already operate a roaster, cup coffee or supervise roasting output in a commercial roastery. No formal cupping qualification is needed. Bringing anonymised roast logs, blend recipes and cost figures helps them apply the profiling and costing exercises to their own roastery.

How does coffee roastery operations differ from a cafe management or coffee farming course?

It starts when green coffee arrives and ends when sealed bags leave the roastery: roasting, blending, release cupping, packaging and cost per kg. Farm courses stop at the green bean, and cafe courses cover brewing, bar service and drink pricing.

Why do roast profiling and development time matter in coffee roastery operations?

Development time decides how sweetness, acidity and bitterness balance in the cup. Too short gives grassy, sour, underdeveloped coffee; too long gives flat or baked notes. Logging rate of rise and development time lets a roastery repeat a profile batch after batch.

What does a participant take back from the coffee roastery operations course?

Each participant takes back a Roastery Production and Quality Plan for a case roastery, with intake rules, origin roast profile sheets, blend recipe cards, a batch release procedure, packaging rules, a safety checklist and a cost per kg model.