



Whole-Building Commissioning Management and Tools Course

13 – 24 September 2027
Kuala Lumpur

Whole-Building Commissioning Management and Tools Course

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Overview

Whole-Building Commissioning Management and Tools Course is a ten-day advanced course for commissioning managers, engineers, consultants, facility teams, owners' representatives, and quality professionals who leave with a Whole-Building Commissioning Dossier. Participants govern requirements, reviews, installation verification, functional performance testing, envelope and controls integration, issue resolution, seasonal testing, handover, training, monitoring, and performance verification across building systems. Agile Leaders Training Center connects whole-building commissioning management with traceable evidence from project definition through operation.

Who Should Attend

- Teams responsible for commissioning scope, governance, planning, and acceptance
- Functions that review mechanical, electrical, plumbing, controls, and envelope delivery
- Personnel who prepare installation and functional performance tests
- Staff who coordinate issues, evidence, systems manuals, training, and handover
- Leaders who sustain building performance through monitoring and verification

The course assumes participants can interpret building-services drawings, specifications, controls sequences, and project records, and it leaves out introductory engineering, equipment design, energy-auditor qualification, and certification-exam preparation.

Departments and Industries

The course supports departments that specify, verify, accept, operate, and improve complex building systems.

- Commercial, institutional, healthcare, hospitality, and public buildings
- Engineering design, construction management, and specialist contracting
- Facilities, operations, maintenance, and energy management
- Quality assurance, project controls, sustainability, and technical governance
- Owners, developers, consultants, commissioning providers, and operators

Learning Objectives

By the end of this course, participants will be able to:



- Build commissioning governance, scope, plans, and acceptance criteria
- Evaluate design, submittals, installation, and controls evidence
- Develop functional and integrated performance tests
- Diagnose deficiencies and manage verified issue closure
- Apply handover, seasonal testing, and operator-readiness controls
- Use monitoring and measurement to sustain performance

Course Agenda

Day 1: Commissioning Governance and Scope

- Whole-Building Commissioning Process Map
- Owner's Project Requirements Development Framework
- Commissioning Team Roles and Authority Matrix
- Systems, Assemblies, and Interfaces Scope Register
- Acceptance Criteria and Evidence Hierarchy

Day 2: Basis of Design and Commissioning Plan

- Basis of Design Traceability Matrix
- Commissioning Plan Structure and Control Log
- Commissioning Schedule and Milestone Integration
- Risk-Based Sampling and Test Coverage Method
- Commissioning Specification Responsibility Schedule

Day 3: Design and Submittal Verification

- Design Review Against OPR Checklist
- Maintainability, Access, and Operability Review
- Controls Sequence and System Interface Review
- Commissioning Submittal Review Register
- Design Issue, Response, and Decision Log

Day 4: Installation Readiness and Field Verification

- Installation Verification Checklist Architecture
- Equipment Startup and Manufacturer Record Review
- Sensor, Meter, and Point-to-Point Verification Method
- Testing, Adjusting, and Balancing Evidence Review
- Pre-Functional Readiness Gate and Release Record



Day 5: Functional Performance Testing

- Functional Performance Test Script Template
- Normal, Part-Load, Failure, and Safety Mode Matrix
- Test Preconditions, Data Capture, and Witness Protocol
- Expected Result, Tolerance, and Pass-Fail Rule
- Retest, Regression, and Evidence-Control Workflow

Day 6: Controls and Integrated Systems

- Building Automation Sequence Verification Table
- Alarm, Interlock, Reset, and Safeguard Test Matrix
- Integrated Systems Test Scenario Map
- Trend Log Configuration and Data Quality Check
- Controls Defect Diagnosis and Resolution Record

Day 7: Envelope, Energy, and Water Systems

- Building Envelope Commissioning Scope Matrix
- Air and Water Penetration Test Plan
- Thermal Bridge and Air-Leakage Investigation Record
- Energy and Water Metering Verification Schedule
- Resource Performance Baseline and Variance Sheet

Day 8: Issues, Seasonal Testing, and Handover

- Commissioning Issue Classification and Priority Matrix
- Corrective Action, Verification, and Closure Workflow
- Seasonal and Deferred Test Register
- Systems Manual Content and Evidence Index
- Operator Training and Readiness Assessment

Day 9: Monitoring and Sustained Performance

- Monitoring-Based Commissioning Plan
- Energy Management Information System Data Map
- Fault Detection and Diagnostic Rule Register
- Measurement and Verification Boundary Method
- Ongoing Commissioning Review and Escalation Cycle



Day 10: Commissioning Integration and Capstone

- Exercise: Audit OPR and Basis of Design Traceability
- Exercise: Build a Functional and Integrated Test Package
- Exercise: Resolve Issues and Plan Seasonal Verification
- Exercise: Assemble Handover and Monitoring Controls
- Capstone Exercise: Whole-Building Commissioning Dossier

Practical Exercises

The course uses suggested activities to convert commissioning requirements into controlled verification evidence.

- Suggested activity: define scope, roles, acceptance criteria, milestones, risks, and traceability between OPR and Basis of Design.
- Suggested activity: review design and submittals, build installation checks, and prepare functional and integrated test scripts.
- Suggested activity: classify issues, document corrective action, verify closure, and schedule seasonal and deferred testing.
- Suggested activity: assemble systems-manual evidence, operator training, monitoring rules, baselines, and review cycles.

FAQs

Who suits the Whole-Building Commissioning Management and Tools Course?

It suits experienced project and building-services professionals who coordinate commissioning evidence and assumes the ability to interpret technical drawings, specifications, sequences, and test records.

How does whole-building commissioning differ from energy auditing?

Whole-building commissioning verifies requirements, design, installation, function, integration, documentation, training, and sustained operation, while energy auditing primarily identifies and evaluates energy-saving opportunities.

What belongs in a functional performance test?

A functional performance test states preconditions, setup, responsible parties, operating modes, commands, expected responses, tolerances, observations, data capture, pass-fail rules, deficiencies, retest requirements, witnesses, and evidence references.

Why is building envelope commissioning integrated with systems commissioning?

Envelope behavior affects loads, pressure, moisture, comfort, controls, and equipment operation, so integrated verification tests interfaces rather than treating enclosure and services as unrelated packages.



How does monitoring-based commissioning sustain building performance?

Monitoring-based commissioning uses meter, automation, weather, and operational data with diagnostic rules and review workflows to detect drift, investigate faults, verify corrections, and track performance over time.

Conclusion

Participants take back a Whole-Building Commissioning Dossier containing requirements, governance, plans, reviews, verification checks, test scripts, issue controls, seasonal tests, systems-manual evidence, training, monitoring, and measurement records. The dossier makes acceptance and performance decisions traceable across delivery and operation. It supports accountable commissioning without replacing discipline-specific engineering design.