BLACKBIRD FOR TRAINING

Advanced Quantity Surveying for MEP Projects Training Course

5 – 16 July 2027
Barcelona (Spain)



Advanced Quantity Surveying for MEP Projects Training Course

Ref: 23_361231 **Date:** 5 – 16 July 2027 **Location:** Barcelona (Spain) **Fees:** 9400 GBP

Introduction:

This advanced 2-week training course is designed for professionals involved in building projects, maintenance, quantity surveying, and project management. It provides practical knowledge of Quantity Surveying for Mechanical, Electrical, and Plumbing MEP projects, covering quantity take-offs, Bill of Quantities BOQ preparation, cost estimation, tendering, procurement, cost control, contract administration, variations, valuations, claims, value engineering, and final accounts.

The course covers the major MEP disciplines, including HVAC, electrical systems, plumbing, drainage, and fire protection. Practical exercises, project scenarios, and case studies are integrated throughout the course to strengthen participants' technical and commercial skills.

Course Objectives:

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

- Understand the roles and responsibilities of an MEP Quantity Surveyor.
- Read and interpret MEP drawings, technical specifications, and BOQs.
- Perform accurate quantity take-offs across different MEP disciplines.
- Prepare MEP cost estimates, unit rates, and cost plans.
- Evaluate tenders and assess contractor and subcontractor quotations.
- Establish, monitor, and manage MEP project budgets.
- Control procurement activities and project costs.
- Manage variations, change orders, and provisional sums.
- Evaluate interim payment applications and contractor claims.
- Apply contract administration and commercial management principles.
- Apply value engineering techniques to optimize MEP project costs.
- Prepare, review, and reconcile final accounts.
- Identify commercial risks and improve project profitability.

Target Audience:

- Assistant Directors
- Maintenance Managers
- Maintenance Engineers
- Quantity Surveyors
- Assistant Quantity Surveyors
- Other professionals involved in building projects, maintenance and project management



Course Outline:

Day 1: Fundamentals of MEP Quantity Surveying

- Roles and responsibilities of an MEP Quantity Surveyor.
- MEP project lifecycle and commercial responsibilities.
- Understanding MEP drawings, technical specifications, and scope of work.
- Measurement principles and standard units for MEP works.
- Introduction to BOQ preparation and common measurement errors.

Day 2: MEP Drawings, Measurement, and Quantity Take-Off

- Reading and interpreting mechanical and HVAC drawings.
- Reading electrical drawings, layouts, and schematics.
- Interpreting plumbing and drainage drawings.
- Understanding fire protection drawings and system layouts.
- Practical quantity take-offs using MEP project drawings.

Day 3: MEP BOQ Preparation and Cost Estimation

- Preparing detailed MEP Bills of Quantities.
- Calculating material and labour quantities.
- Developing MEP unit rates and conducting cost analysis.
- Evaluating equipment, subcontractor, overhead, and preliminary costs.
- Preparing complete MEP project cost estimates.

Day 4: HVAC Quantity Surveying and Cost Management

- Overview of HVAC systems and their major components.
- Measuring ductwork, piping, insulation, and equipment.
- Evaluating HVAC equipment prices and installation costs.
- Preparing HVAC BOQs and conducting cost evaluations.
- Practical HVAC quantity measurement and cost estimation exercises.

Day 5: Electrical and Low-Current Systems

- Overview of electrical systems and major project components.
- Measuring cables, conduits, panels, lighting systems, and accessories.
- Understanding low-current and Extra-Low Voltage ELV systems.
- Preparing electrical BOQs and cost estimates.
- Practical electrical quantity take-offs and pricing exercises.



Day 6: Plumbing and Fire Protection Quantity Surveying

- Water supply, drainage, and plumbing systems.
- Measuring and pricing pipes, fittings, fixtures, and equipment.
- Overview of fire protection systems and their major components.
- Preparing fire protection BOQs and cost estimates.
- Practical measurement exercises for plumbing and fire protection systems.

Day 7: Tendering, Procurement, and Contractor Evaluation

- MEP tender documentation and commercial requirements.
- Preparing and reviewing tender BOQs.
- Comparing contractor and subcontractor quotations.
- Evaluating exclusions, assumptions, qualifications, and alternative proposals.
- Conducting tender analyses and preparing commercial recommendations.

Day 8: Cost Control, Valuations, and Variations

- Establishing MEP project budgets and cost baselines.
- Monitoring committed, actual, and forecast project costs.
- Reviewing interim payment applications and progress valuations.
- Measuring and pricing variations and change orders.
- Managing provisional sums, new rates, and daywork.

Day 9: Contracts, Claims, Commercial Risk, and Value Engineering

- Key contractual principles affecting MEP works.
- Evaluating MEP claims and supporting documentation.
- Identifying, assessing, and managing commercial risks.
- Understanding delay, disruption, and additional-cost considerations.
- Applying value engineering techniques to optimize MEP project costs.

Day 10: Final Accounts and Integrated MEP Project Case Study

- Preparing and reconciling final accounts.
- Reviewing variations, claims, payments, and outstanding costs.
- Identifying cost overruns and commercial risks.
- Conducting a full commercial review of an MEP project.
- Completing a final practical assessment and developing an action plan.



Why Attend This Course: Wins and Losses

Wins: Benefits of Attending

- Develop advanced MEP quantity surveying capabilities.
- Improve the accuracy of quantity measurements, BOQs, and cost estimates.
- Strengthen tender analysis and contractor evaluation skills.
- Enhance project cost control, monitoring, and forecasting.
- Manage variations, valuations, and claims more effectively.
- Reduce commercial risks and avoid unnecessary project expenditure.
- Apply value engineering to achieve cost-effective MEP solutions.
- Strengthen final account preparation and commercial management skills.

Losses: Risks of Not Developing These Skills

- Incorrect quantity measurements and inaccurate project budgets.
- Cost overruns and uncontrolled variations.
- Ineffective tender analysis and contractor evaluations.
- Payment disputes and valuation disagreements.
- Missed commercial opportunities and potential cost savings.
- Limited visibility of project costs and profitability.

Practical Case Studies:

Case Study 1: Complete MEP BOQ Preparation and Quantity Take-Off

Participants will work on a building project scenario covering HVAC, electrical, plumbing, and fire protection systems. They will identify the project scope, perform quantity take-offs, prepare selected BOQ items, and identify measurement errors and missing scope items.

Case Study 2: MEP Tender Evaluation

Participants will compare three contractor quotations for the same MEP project. They will analyze unit rates, exclusions, qualifications, alternative proposals, and commercial conditions before preparing a tender evaluation report and recommending the most suitable option.

Case Study 3: MEP Variations, Claims, and Final Accounts

Participants will assess an MEP project involving design changes, additional HVAC equipment, electrical modifications, and plumbing alterations. They will measure and price variations, evaluate contractor claims, assess the commercial impact of changes, and prepare the final account.



Conclusion:

This advanced 2-week training course provides practical knowledge of Quantity Surveying for MEP projects. Participants will develop the skills required to manage the commercial aspects of MEP projects, from initial measurement and cost estimation through tendering, procurement, cost control, variations, valuations, claims, value engineering, and final account preparation.

The course is particularly suitable for Assistant Directors, Maintenance Managers, Maintenance Engineers, Quantity Surveyors, Assistant Quantity Surveyors, and other professionals seeking to strengthen their technical, financial, and commercial capabilities in MEP project management.

Frequently Asked Questions FAQ:

Who is this course designed for?

The course is designed for Assistant Directors, Maintenance Managers, Maintenance Engineers, Quantity Surveyors, Assistant Quantity Surveyors, and other professionals involved in building projects, maintenance, and project management.

Does the course cover all major MEP disciplines?

Yes. It covers HVAC, electrical systems, plumbing, drainage, fire protection, and selected low-current and ELV systems.

Does the course include practical quantity take-off exercises?

Yes. Participants will work with practical MEP project scenarios, perform quantity take-offs, prepare BOQ items, and complete cost estimation exercises.

Does the course cover contracts, variations, and claims?

Yes. The course covers contract administration, variations, interim valuations, contractor claims, cost control, commercial risks, value engineering, and final accounts.

Is the course suitable for both technical and commercial professionals?

Yes. The course combines technical knowledge of MEP systems with practical quantity surveying, cost estimation, and commercial management skills.

