MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

NEW XRF ANALYZER MACHINE - MASTER CLASS

"Master XRF Technology for Accurate Material Analysis and Quality Control"

Schedule

Date	Venue	Fees (Face-to-Face)
04 – 08 Oct 2026	Doha, Qatar	USD 3495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

X-ray fluorescence (XRF) analyzers are powerful tools for rapid, non-destructive material characterization and elemental analysis. This 5-day master class provides in-depth knowledge of the latest XRF analyzer machines, equipping participants with the skills to operate, calibrate, and interpret results with high accuracy.

Through hands-on workshops, case studies, and practical demonstrations, participants will gain expertise in sample preparation, measurement techniques, data interpretation, and quality control. The course prepares professionals to enhance laboratory efficiency, improve material verification processes, and ensure compliance with industry standards.

Objectives

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

- Understand the principles and working of XRF analyzer technology
- Operate new XRF machines with precision and confidence
- Perform sample preparation and analysis for various materials
- Calibrate instruments and ensure measurement accuracy
- Interpret XRF data for quality control and decision-making
- Apply XRF analysis in industrial, environmental, and research contexts

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Why Attend

- Gain hands-on experience with modern XRF analyzer machines
- Learn advanced techniques for elemental analysis and material testing
- Improve accuracy and reliability of laboratory results
- Enhance decision-making in quality control and compliance
- Network with industry professionals and share best practices

Target Audience

This program is designed for:

- Laboratory technicians and analysts
- Quality control and assurance professionals
- Materials scientists and engineers
- Environmental monitoring personnel
- Industrial and research professionals involved in material testing

Individual Benefits

Key competencies that will be developed include:

- Expertise in XRF analyzer operation and calibration
- Skills in sample preparation and analytical techniques
- Ability to interpret elemental analysis data accurately
- Knowledge of quality control protocols and industry standards
- Competence in troubleshooting and maintaining XRF equipment

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved material testing accuracy and reliability
- Enhanced laboratory efficiency and workflow
- Compliance with industry and environmental standards
- Stronger decision-making based on precise analytical data
- Reduced errors and improved quality control in production processes

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – In-depth understanding of XRF technology principles
- Case Studies – Real-world applications of XRF analysis in various industries
- Workshops – Hands-on exercises in sample preparation, measurement, and data interpretation
- Peer Exchange – Group discussions on challenges and best practices in XRF analysis
- Tools – Templates, checklists, and software for XRF measurement and reporting

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Course Outline

Detailed 5-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Introduction to XRF Technology

Module 1: Basics of XRF Analysis (07:30 – 09:30)

- Principles of X-ray fluorescence
- Overview of XRF analyzers and applications

Module 2: Instrument Components and Functionality (09:45 – 11:15)

- Hardware and software components
- Operational workflow and safety considerations

Module 3: Sample Preparation Techniques (11:30 – 01:00)

- Methods for solid, liquid, and powdered samples
- Minimizing errors and contamination

Module 4: Workshop – Sample Preparation (02:00 – 03:30)

- Hands-on exercises in sample handling
- Preparing samples for accurate analysis

Day 2: Operation and Measurement Techniques

Module 1: XRF Machine Operation (07:30 – 09:30)

- Starting, calibrating, and configuring the machine
- Measurement protocols for different sample types

Module 2: Calibration and Standardization (09:45 – 11:15)

- Using reference materials for calibration
- Ensuring accuracy and repeatability

Module 3: Analytical Techniques (11:30 – 01:00)

- Qualitative and quantitative analysis
- Matrix effects and correction methods

Module 4: Workshop – Operational Exercises (02:00 – 03:30)

- Hands-on measurement practice
- Performing repeated trials and calibrations

Day 3: Data Interpretation and Quality Control

Module 1: Data Analysis Fundamentals (07:30 – 09:30)

- Reading XRF spectra and elemental reports
- Identifying patterns and anomalies

Module 2: Quality Control in XRF Analysis (09:45 – 11:15)

- Implementing standard operating procedures
- Ensuring compliance with ISO and industry standards

Module 3: Troubleshooting and Maintenance (11:30 – 01:00)

- Common operational issues and solutions
- Preventive maintenance practices

Module 4: Workshop – Data Interpretation Exercises (02:00 – 03:30)

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Analyzing sample results

- Applying quality control techniques

Day 4: Advanced Applications and Case Studies

Module 1: Industrial Applications (07:30 – 09:30)

- XRF in metals, minerals, and chemical industries
- Environmental and research applications

Module 2: Case Studies and Lessons Learned (09:45 – 11:15)

- Real-world XRF analysis scenarios
- Challenges and best practices

Module 3: Integration with Laboratory Systems (11:30 – 01:00)

- Software tools and reporting templates
- Data management and compliance

Module 4: Workshop – Practical Application Exercises (02:00 – 03:30)

- Hands-on analysis using different sample types
- Simulating real-world laboratory workflows

Day 5: Certification Preparation and Action Planning

Module 1: Review and Knowledge Assessment (07:30 – 09:30)

- Recap of key concepts and techniques
- Knowledge check and Q&A

Module 2: Mock Analysis Exercises (09:45 – 11:15)

- Simulated tests on real samples
- Evaluating accuracy and interpretation skills

Module 3: Best Practices and Optimization (11:30 – 01:00)

- Optimizing workflow and analysis efficiency
- Implementing continuous improvement strategies

Module 4: Workshop – Action Planning and Wrap-Up (02:00 – 03:30)

- Developing individual implementation plans
- Final Q&A and course feedback

Certification

Participants will receive a Certificate of Completion in New XRF Analyzer Machine – Master Class, validating their expertise in operating, calibrating, and interpreting results from XRF analyzers for accurate material analysis and quality control.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

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