MAWA EVENTS

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

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

GAS-LIQUID CHROMATOGRAPHY TECHNIQUES FOR EVERYDAY LAB USE

"Practical, reliable, and safe application of gas-liquid chromatography in routine laboratory analysis."

Schedule

Date	Venue	Fees
27 – 28 Oct 2026	Online	USD 700 per delegate

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

Introduction

Gas-Liquid Chromatography (GLC) is a fundamental analytical technique widely used in chemical, environmental, pharmaceutical, food, and petrochemical laboratories. Accurate operation and interpretation of GLC results are essential for quality control, safety assurance, and regulatory compliance. However, routine laboratory challenges such as poor peak resolution, equipment issues, and inconsistent results often arise due to gaps in practical understanding.

This 2-day intensive online training is designed to provide participants with hands-on knowledge of GLC principles, instrument components, method development, and troubleshooting techniques suitable for everyday laboratory use. The course emphasizes safe operation, data interpretation, and best practices to ensure consistent, reliable, and compliant analytical results.

Objectives

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

- Understand the fundamental principles of gas-liquid chromatography.
- Operate GLC instruments safely and efficiently.
- Develop and optimize chromatographic methods for routine analysis.
- Interpret chromatograms and analytical results accurately.
- Diagnose and troubleshoot common GLC operational problems.

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Why Attend

- Strengthen practical skills in routine GLC laboratory applications.
- Improve accuracy, reliability, and repeatability of analytical results.
- Reduce instrument downtime and analytical errors.
- Enhance laboratory safety and compliance with quality standards.
- Gain confidence in method development and troubleshooting.

Target Audience

This program is designed for:

- Laboratory analysts and technicians.
- Quality control and quality assurance professionals.
- Health, safety, and environmental laboratory staff.
- Chemical, petrochemical, and environmental analysts.
- Supervisors and managers overseeing laboratory operations.

Individual Benefits

Key competencies that will be developed include:

- Ability to operate and maintain GLC systems effectively.
- Enhanced understanding of chromatographic separation principles.
- Skills in method optimization and result interpretation.
- Improved troubleshooting and problem-solving capabilities.
- Increased awareness of laboratory safety practices.

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved quality and consistency of laboratory analytical results.
- Reduced rework, sample reruns, and instrument downtime.
- Enhanced compliance with laboratory quality and safety standards.
- Strengthened technical capability of laboratory teams.
- Improved confidence in analytical data for decision-making.

Instructional Methodology

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

- Strategy Briefings – Fundamental and applied concepts of gas-liquid chromatography.
- Case Studies – Common laboratory challenges and analytical failures.
- Interactive Demonstrations – Virtual walkthroughs of GLC systems and workflows.
- Practical Exercises – Interpretation of chromatograms and troubleshooting scenarios.
- Tools – Method development guides, troubleshooting checklists, and safety references.

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Course Outline

Detailed 2-Day Course Outline

Training Hours: 9:00 AM – 4:00 PM Daily Format: 3–4 Learning Modules | Coffee breaks as scheduled | Lunch Break: 01:00 – 02:00

Day 1: Fundamentals of Gas-Liquid Chromatography

Module 1: Introduction to Gas-Liquid Chromatography (09:00 – 10:30)

- Principles of chromatographic separation
- Role of stationary and mobile phases
- Applications of GLC in routine laboratory analysis

Module 2: GLC Instrumentation and Components (10:45 – 12:15)

- Injectors, columns, detectors, and carriers gases
- Instrument setup and operational considerations

Module 3: Sample Preparation and Method Development (01:00 – 02:30)

- Sample handling, preparation, and injection techniques
- Selection of columns and operating conditions

Module 4: Safety and Good Laboratory Practices (02:45 – 04:00)

- Safe handling of gases and chemicals
- Preventing contamination and analytical errors

Day 2: Data Interpretation, Optimization, and Troubleshooting

Module 5: Chromatogram Interpretation and Quantification (09:00 – 10:30)

- Peak identification, resolution, and retention time
- Calibration and quantification techniques

Module 6: Method Optimization and Performance Evaluation (10:45 – 12:15)

- Improving sensitivity, accuracy, and repeatability
- Validation and quality control checks

Module 7: Troubleshooting Common GLC Problems (01:00 – 02:30)

- Baseline noise, peak tailing, and ghost peaks
- Instrument and column-related issues

Module 8: Case Studies, Best Practices, and Course Review (02:45 – 04:00)

- Review of real-world laboratory scenarios
- Key takeaways, action planning, and Q&A

Certification

Participants will receive a Certificate of Completion in Gas-Liquid Chromatography Techniques for Everyday Lab Use, validating their practical competence in operating, optimizing, and troubleshooting GLC systems safely and effectively.

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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