



First Select

Gas Chromatography: Fundamentals, Troubleshooting, and Method Development

Date	Venues	(\$)Fees	Book your seat
07 Dec -11 Dec 2025	Bahrain	2900	Register Now

Course objectives:

This course offers no-nonsense, results-oriented training that will help you improve your bottom-line performance. Come prepared to discuss your analytical problems and challenges with expert chromatographers. By enrolling in this course, you will learn to master state-of-the-art techniques and equipment in GC with practical, hands-on experience. In the course's five hands-on laboratory sessions, you will work on a variety of experiments, and in the process, become familiar with GC equipment by taking apart and reassembling working GCs. You will be able to experiment with new ideas, like fast-GC or splitless injection.

Who should attend?

This course is designed for complete beginners to seasoned intermediates in gas chromatography who want practical laboratory experience. The lectures, supplemented by hands-on laboratory experiments, slides, and video tapes, provide the fundamentals needed to understand the technique and instrumentation involved in this powerful analytical tool. No previous experience in gas chromatography is required for the course. Because of the amount of lab work performed by course participants, enrollment is limited to 16.

Course Outline:

GC Overview:

- Introduction to GC
- GC Instrumentation Overview
- Practical GC Theory? Packed & Capillary
- Laboratory: GC Familiarization

Injection Techniques & Quantitative Analysis:

- Overview of Sample Introduction Techniques
- Capillary Inlet Systems: Split, Splitless, On-Column, Large Volume Injectors
- Qualitative and Quantitative Analysis
- Laboratory: Comparing Injection Techniques
- Laboratory: Troubleshooting Injector Problems
- Laboratory: Internal vs. External Standard Techniques

Columns:

- Packed Column Overview
- Capillary Column Technology
- Temperature Programming
- Laboratory: Column Dimension and Phase Selection
- Laboratory: Fast GC

Detectors:

- Overview of Available Detectors
- Details of FID & TCD
- GC/MS
- Laboratory: GC Detector Operation
- Laboratory: Troubleshooting FID and TCD

Method Development & Temperature Programming:

- Temperature Programming
- Fundamentals of Method Development
- Laboratory: Develop a Method for a Complete Unknown Mixture

WORKSHOP STYLE:

This will be a participative workshop with a mix of interactive learning sessions, exercises and discussions aimed to provide maximum impact and learning retention for all delegates.



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