LABORATORY EXCELLENCE, SAFETY AND ACCREDITATION

Mass Spectrometry: LC-MS and GC-MS Operation

5 day course Classroom, online or in-house

Course overview

Mass spectrometry identifies and quantifies compounds at concentrations no other routine technique reaches, and it produces confident numbers from a badly prepared sample just as readily as from a good one. This course covers using it properly. Delegates work through ionisation and mass analyser principles to the depth an operator needs, coupling to gas and liquid chromatography and what each suits, and sample preparation and clean up, which determines most of the outcome. Acquisition modes including full scan and selected reaction monitoring are covered. Quantification with internal standards and the correction of matrix suppression follow. Spectral interpretation and library matching are addressed with their limits. The course closes on maintenance, tuning and troubleshooting sensitivity loss.

What you will learn

- Explain ionisation and mass analyser principles at an operating level
- Select gas or liquid chromatography coupling for an analyte
- Prepare and clean up samples to protect the instrument and the result
- Choose acquisition modes appropriate to the analysis
- Quantify using internal standards and correct for matrix suppression
- Interpret spectra and use library matching within its limits
- Maintain, tune and troubleshoot loss of sensitivity

Who should attend

- Analytical chemists and laboratory analysts
- Food, environmental and pharmaceutical testing staff
- Forensic and toxicology laboratory personnel
- Method development chemists
- Laboratory managers overseeing instrument investment

Course outline

01 Confident numbers from a poor sample
02 Ionisation and mass analysers
03 Coupling to gas and liquid chromatography
04 Sample preparation and clean up
05 Acquisition modes
06 Quantification and internal standards
07 Matrix suppression and correction
08 Spectral interpretation, maintenance and troubleshooting

Upcoming dates

Dates	Venue	Format	Fee per delegate
21 to 25 September 2026	Maputo, Mozambique	Classroom	USD 1,325
23 to 27 November 2026	Cape Town, South Africa	Classroom	R19,950
30 November to 4 December 2026	Pretoria, South Africa	Classroom	R19,950
28 December 2026 to 1 January 2027	Johannesburg, South Africa	Classroom	R19,950

Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit **www.afrisciencegroup.com**, email **info@afriscience.co.za**, or WhatsApp us on **+27 63 479 1136**.

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