



GC-MS For the Chromatographer

A course designed to highlight the powerful possibilities of GC analysis with spectral detection. Tuning and tune reports will be explained and instruction given in the use of tune reports as a powerful diagnostic tool.

The functionality of the MS will be discussed in detail including principles of the quadrupole mass filter. Ionisation will be thoroughly investigated and practically optimised along with cleaning principles and regimes being explained and demonstrated.

Course Contents

Chromatographic Considerations

- Sample preparation
- Column configurations for GC-MS
- Sample loading and stationary phase choice
- Flow rate considerations

Sample Introduction

- The Transfer Line
- Flow splitting
- The ion source explained
- Modes of ionisation
- Electron impact / chemically induced ionisation examples and fragmentation

MS Hardware

- Why use vacuum?
- Controlling and monitoring vacuum
- Quadrupole mass analysis explained
- Ion traps explained

Detector Systems

- Electron multipliers and detector electronics
- Matthieu stability diagrams
- X-ray lens and high energy dynodes
- AMU gain and offset
- Spectral resolution

Tuning and Calibration

- Purpose of tuning
- Tuning compounds
- Explanation of auto-tune voltages
- Troubleshooting from the auto-tune
- User tuning and voltage ramping

Quantitation

- Scan & SIM modes
- High sensitivity data acquisition



Email our Training Team