



# GC - MS Technical Training

## Module Name: GC-MS – Introduction

**Time Allocated:** 1.5 - 2 hours  
**Intended Audience:** This module assumes a basic knowledge of gas chromatography but assumes no prior knowledge of GC-MS.

### Content Covers:

- How 3 dimensional data are transformed into a 2 dimensional chromatogram
- The GC-MS interface
- Calculation of molecular weights
- Structural isomers
- The chemistry of ionization and difference to classical wet chemistry – ions and radicals
- Isotopes and isotopic abundances
- Review of basic organic chemistry including structures of aldehydes, carboxylic acids etc.
- Review of basic molecular structure theory

### At the completion of this seminar, attendees should be able to:

- Understand the basics of mass spectral acquisition
- Understand the relationship between the end of the column and the EI source
- Identify the molecular ion
- Draw some structural isomers from a molecular formula
- Calculate the number of carbons in the molecule through the carbon-13 isotope
- Recognize fragmentation patterns from several classes of molecules