



Gas and Liquid Chromatography and Troubleshooting Training

Description

Introduction

Gas & Liquid Chromatography and Troubleshooting is a comprehensive course covering the following areas:

- Sample preparation
- Sample introduction
- Sample separation
- Columns
- Detectors
- Data acquisition
- Troubleshooting
- Reporting

Objectives

This program is designed to give the participants the capability to:

- Gain the basic theoretical aspects of Gas Chromatography
- Communicate practical information, capabilities and limitations of Gas & Liquid Chromatography
- Gain confidence on the analysis technique, troubleshooting and analytical results evaluation.

The Content

Introduction to Chromatography

- The History of Chromatography – GC & LC
- Overview of GC & LC Chromatography
- The Modern Chromatograph
- Liquid Chromatography – The Development Process
- Factors Controlling Retention

- Molecular Forces and Chromatographic Selectivity
- Effects of Stationary Phase Loading on the Performance of a Chromatographic System
- Chromatography Nomenclature

Chromatography Basics

- Basic Chromatography
- Sample Introduction
- The role of sample introduction and injection ports in GC operations
- Injection ports maintenance and its impact on GC performance
- Columns
- The role of columns in GC operations.
- Column selection & maintenance
- How columns can impact GC performance

GC Operation

- Peak Dispersion in a Chromatographic Column
- Detector Selection
- The role of Detectors in GC operations
- Detector maintenance
- How detectors can impact GC performance
- Setup and GC. Operation, Basic steps
- Preparation for operation.
- Sampling Techniques

Data Acquisition and Calibration

- Calibration
- Data Acquisition and Processing System
- Calibration linked to GC performance

Applications and troubleshooting

- Chromatography Applications
- Method Development
- Gas Chromatography
- Liquid Chromatography
- ISO17025 Accreditation Basics
- Laboratory Management & Troubleshooting