



## **Gas and Liquid Chromatography and Troubleshooting**

**Course Venue:** UAE - Dubai

**Course Date:** From 11 Jul 2021 To 15 Jul 2021

**Course Place:** Boulevard Sheikh Mohammed Bin Rashid

**Course Fees:** 5450 GBP



## **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