TRAINING PROGRAM

Agilent Chromatography Technology And Advance Gas Chromatography Operation, Calibration, Troubleshooting And Practice

Who should attend this course?

Analytical chemists, laboratory supervisors, laboratory technicians, GC technicians, research and development scientists, instrument specialists, and quality assurance/control managers.

Course Description:

This course is designed to integrate the various aspects and techniques within the field of separation science. We will cover theory, instrumentation, and practice of modern separation techniques including gas chromatography, liquid chromatography, and electro kinetic separations. We will also discuss sample preparation methods.

The emphasis of the course is on practical, empirical, and applied aspects of the above, with sufficient coverage of theory to provide a thorough understanding of how the methods work and to facilitate method development.

Programme Objectives:

By the end of this course delegates will be able to:

- A greater understanding of why and how separations techniques work as they do
- An ability to select and employ appropriate separations methods for various analysis problems
- An aptitude for making the calculations necessary in utilizing the various separation techniques. Having met these goals, you will be able to effectively employ chromatography and other separations methods in your research

Course Content:

- Introduction to separation science
- Separations theory and calculations
- Column Systems
  - ❖ Packed and capillary
  - ❖ Performance evaluations, how they are made
  - ❖ Liquid phases/selection/temperature limits
  - ❖ Solid supports
  - ❖ Adsorbents, molecular sieves
  - ❖ How to select the type of columns required for plant application
  - ❖ Isothermal/temperature programming
  - ❖ Compatibility, operating tips
  - ❖ Installation of columns, trouble-shooting, gas flow adjustments
  - ❖ Linear velocity thru capillary column
  - ❖ Operational tips
  - ❖ Column behavior
  - ❖ Maintenance and trouble-shooting
- Gas chromatography: hardware and methods
- High performance liquid chromatography: hardware and methods
- Introduction to modern electrophoretic methods of analysis
- Sample preparation
- Biological, environmental, and industrial applications (interspersed among the above)
- Introduction to Troubleshooting and Preventive Maintenance

- System Familiarization
- Inlet Troubleshooting and Maintenance
- Worksheet Exercise 1
- Automatic Liquid Sampler (ALS) Troubleshooting and Maintenance
- Capillary Column Troubleshooting and Maintenance
- Video Segment 2: Column Installation
- Electronic Pneumatic Control (EPC) T&M
- Detector Troubleshooting and Maintenance
- Worksheet Exercise 2
- Worksheet Exercise 3
- Data System Troubleshooting and Conclusion