



AL142: Agilent Chromatography Technology and Advanced Gas Chromatography Operation, Calibration, Troubleshooting and Practice

Training Description:

This intensive training course is designed to integrate the various aspects and techniques within the field of separation science. The training course will cover theory, instrumentation, and practice of modern separation techniques including gas chromatography, liquid chromatography, and electro kinetic separations. The training course 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.

Training Objectives:

By the end of the training, participants will be able to learn:

- ✓ 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, participant will be able to effectively employ chromatography and other separations methods in your research

Training Designed for:

This course is intended for Analytical chemists, laboratory supervisors, laboratory technicians, GC technicians, research and development scientists, instrument specialists, and quality assurance/control managers.

Training Program:

FIVE DAYS:

- ❖ PRE-TEST
- ❖ 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
- ❖ Course Conclusion
- ❖ POST-TEST and EVALUATION

Training Requirement:

“**Hand’s on practical sessions, equipment and software** will be applied during the course if required and as per the client’s request.” (This hands-on, highly-interactive training includes simulator, real-life case studies and exercises).

This training course is available upon request in English or Arabic, virtual online live or face to face public/inhouse. Content, location and duration can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

As per the course location - This rate includes participant’s manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.



Team Training Discount—If you're registering with a company colleague (or two or more) at the same time, you can save an additional 20%. (The 20% discount applies only to two or more participants taking the same course and does not apply to two participants taking separate courses.)

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:30	Recess (Prayer Break & Lunch)
13:30 - 15:00	Last Session

For training registrations or in-house enquiries, please contact:

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Training & Career Development Department

