



تنظم الجمعية الكيميائية السعودية بالتعاون مع كلية الصيدلة بجامعة الملك عبدالعزيز الدورة التدريبية التالية:

# HPLC Concepts and Hands-On Training Courses

## أساسيات وتطبيقات كروماتوغرافيا الطور السائل عالي الاداء

13-15 FEB. 2017

King Abdulaziz University  
Faculty of Pharmacy



دورة

تدريبية نظرية  
وعملية

4 Courses  
in One  
Training

1. How to Run HPLC Methods
2. How to Develop HPLC Methods
3. How to Validate Chromatographic Methods
4. How to Deal with HPLC Troubleshooting

# How to Run HPLC Methods

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**COURSE SUMMARY:** Learn how to set up and run HPLC analysis with full understanding of all the method parameters such as the column, the mobile phase, the instrumentation, and sample preparation, and how to interpret and quantify the results of the analysis.

This course is ideal for those who are new to HPLC.

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**COURSE OUTLINE:**

**HPLC method parameters:**

- Columns and stationary phase
- Mobile phase
- Instrumentation
- Preparation of test solutions
- Directions for analysis
- Setting up HPLC systems for analysis
- Interpreting results from

**HPLC analysis:**

- Integration
- System suitability
- Quantification techniques

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**PRACTICAL SKILLS ACQUIRED:** This course will enable you to implement HPLC analytical methods by transferring the parameters from the method to your HPLC system. In addition you will be able to:

1. Understand what is meant by all the parameters in an HPLC analytical method.
2. Follow an HPLC analytical method to set up an HPLC system for analysis
3. Run an HPLC analytical method and acquire chromatographic results.
4. Interpret chromatograms obtained from HPLC analysis.
5. Calculate analytical results for HPLC analysis.

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**Couse No:** 01

**Date:** 13 Feb. 2017

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# How to Develop HPLC Methods

**COURSE SUMMARY:** Learn how to select appropriate method conditions and perform suitable investigative experiments to obtain a set of method parameters which enables the desired separation for mixtures of analytes. This course is ideal for those who have experience of running HPLC methods and now want to learn how to develop new methods.

**COURSE OUTLINE:**

- Developing a method using a 5-step strategy:
  - \* Setting suitable objectives for method development
  - \* Assessing all available information
  - \* Selecting suitable samples
  - \* Performing scouting experiments to select suitable initial conditions
  - \* Optimizing the method to define method parameters

**PRACTICAL SKILLS ACQUIRED:**

This course will enable you to take a strategic approach to developing HPLC methods with an understanding of the factors which can be adjusted to manipulate the retention time of analytes. In addition you will be able to:

- 1- Define the objectives for the development of a HPLC analytical method.
- 2- Effectively assess all the available relevant information relating to the desired method, e.g. pKa of the analyte
- 3- Select and prepare a suitable sample or samples to be used for the method development.
- 4- Select suitable scouting conditions to find a suitable column and mobile phase system
- 5- Optimise the chromatographic conditions to result in the best possible separation

**Couse No:** 02

**Date:** 14 Feb. 2017

# How to Validate Chromatographic Methods

**COURSE SUMMARY:** Learn how to design suitable experiments for the validation of an analytical method, selecting the appropriate validation parameters, and then interpret the results obtained using statistics. This course is ideal for those who are confident running chromatographic methods and want to learn how to perform validation.

**COURSE OUTLINE:**

- Validation parameter for investigation: : Selectivity, accuracy, precision, calibration curve, range, limit of detection and quantification, robustness
- Reporting validation data: - Interpreting validation results - Calculating appropriate statistics

**PRACTICAL SKILLS ACQUIRED:** This course will enable you to validate chromatographic methods by design of suitable experiments and interpretation of the results obtained. In addition you will be able to:

- 1- Understand and define fully the parameters used for method validation.
- 2- Plan a validation study and design the necessary experiments. .
- 3- Calculate the statistics required for analytical method validation.
- 4- Interpret the results of validation and generate a suitable report on completion.

**Couse No:** 03

**Date:** 15 Feb. 2017

# How to Deal with HPLC Troubleshooting

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**COURSE SUMMARY:**

Learn how to find solutions for problems encountered when running HPLC analysis by diagnosing symptoms and implementing appropriate preventative measures. This course is ideal for those who have experience of using HPLC and now want to develop their skills further.

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**COURSE OUTLINE:**

- Overview of the HPLC and how it works: - Mobile phase, pumps, injectors, columns, detectors and connections
- Common problems and preventative measures
- Problem solving strategy: - Assessing the symptoms - Making diagnosis - Finding the appropriate solution

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**PRACTICAL SKILLS ACQUIRED:**

This course will enable you to go back to your lab with full understanding of why problems may arise with your HPLC system and give you the skills and knowledge to both prevent and resolve those problems. In addition you will be able to:

- 1- Understand how HPLC works and the role of each component in an HPLC system
- 2- Understand how problems can arise in the individual components of an HPLC system.
- 3- Implement measures which prevent problems occurring.
- 4- Use a systematic problem-solving approach to HPLC troubleshooting.

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**Couse No:** 04**Date:** 15 Feb. 2017

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**Alaa Khedr**

Is Professor of Pharmaceutical Analytical Chemistry, Faculty of Pharmacy - King Abdulaziz University, Jeddah. He holds a master's degree from Egypt in the field of quality control of pharmaceuticals. PhD studied in Germany for spatial selection for drug metabolism using gas chromatography - spectrometer (Bonn, Germany). Dr. Khader and founded R & D unit in the city of Cincinnati, Ohio, USA Participated in the drug development project for the production of pharmaceutical preparation (buspirone). He is an expert in regulatory affairs for research and development and quality control of pharmaceuticals. His main research interests focused on the design and implementation of the stability program for drug screening and to evaluate the environmental variables and their impact on drugs Dr. Alaa also participated in the establishment of a pharmaceutical company (T3A - Egypt and Hoshkrh Betts - New Jersey). As he mastered many pharmaceutical industrial activities, including the preparation of laboratories, quality control, facilities planning, and the establishment of research and development department, as well as regulatory affairs. He participated in providing a single product for Pharmaceuticals in Basel, Switzerland, and thus in the European Union. Dr. Khader is one of the references in reference accredited Clark for separating and classifying 2008. He is also an arbitrator in some international scientific journals.

**Contact Information**

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### **Ahmed Kamal Ahmed kamal**

has considerable experience and is fully qualified in the areas of both pharmaceutical analysis and training practice. he has worked as an analytical pharmacist in the pharmaceutical industry for over 6 years on a range of method development projects and has been responsible for many pharmaceutical analysis training programmes during this time.

#### **Working Experience:**

- PRCU technical manager Faculty of pharmacy – KAU 2011 ·
- Methodology and stability manager in Multi -Apex pharmaceutical industry - Cairo 2009
- Quality manager for QC lab in Multi -Apex 2005 And participating as quality manager in team responsible for the implementation of the requirements of international standard ISO/IEC 17025/2005 of QC lab of Multi-Apex pharma ( the lab became accredited in November 2008)
- Assistant lecturer in faculty of pharmacy– Ain shams university –Cairo Egypt 2003

#### **Qualifications:**

- PhD in pharmaceutical analytical chemistry, Cairo University(2015)
- MSc in pharmaceutical analytical chemistry, Ain Shams University(2003)
- TQM diploma From AUC Cairo-Egypt ( 2008)

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أساسيات وتطبيقات كروماتوغرافيا الطور السائل عالي الاداء

## Registration Form

Name: .....

Work Place: .....

Address: .....

P.O.Box: .....

Zeb Code: .....

City: .....

Work Tel: .....

Mobile: .....

Fax: .....

E-mail: .....

Seats are limited, the priority for the fast registration

Date:

**13-15 Feb. 2017**

Course Fees

**3000 SR**

20% discount for group registration, more than 3.

20% discount for Saudi Chemical Society members.

50% discount for Students.

Account of Saudi Chemical Society: 2680174640 Samba Bank

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For More Informations

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