

To register:

Fax this form to 973-616-0133.

Note: method of payment must accompany registration.

Special Discount Offer

Registration of three or more attendees from the same company for the same course date will receive a \$50 discount per person.

LC101: SELECT COURSE DATE

4/16/2008 9/17/2008

LC201: SELECT COURSE DATE

4/17/2008 9/18/2008

ATTENDEE 1 INFORMATION:

See next section below to add additional attendees from the same location.

First Name: _____

Last Name: _____

Company: _____

Address: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

E-Mail: _____

Course Hours: 8:30am - 4:30pm

Confirmation will be provided upon receipt of registration.

LC101 Course Fee: \$550 per person

LC201 Course Fee: \$595 per person

Method of Payment:

- Purchase Order (attach to registration form)
- Check (to arrive a minimum of 7 days prior to course)
- MasterCard Visa American Express

Name on Card: _____

Number _____

Expiration: _____

Complete Billing Address:

ADDITIONAL ATTENDEE(s)

REGISTRANT 2: _____

E-MAIL: _____

REGISTRANT 3: _____

E-MAIL: _____

REGISTRANT 4: _____

E-MAIL: _____

NOTATIONS:

Registration: Method of payment must be provided with registration form.

Cancellation Policy: Refunds will be provided up to 10 business days prior to the scheduled course date. Cancellations within 10 business days of course date will be provided at 50%.

HPLC Courses

COURSE OVERVIEW

LC101: HPLC Practice

What does a Chromatogram tell us? Learn about the fundamentals and practice chromatography with confidence.

LC101 Course Content

Principles of Elution Chromatography

Learn the analogy between an HPLC column and a continuous extraction process, and the stationary and mobile phase concept. Attendees will look at types of chemical interactions that can cause column retention and component extraction from a flowing mobile phase. Also look at the description of a chromatogram and review of separation terminology, and the definitions of solubility parameter, solvent strength, and solvent gradients.

Instrument Components and System Design

Look at how to make and maintain proper zero dead volume connections between HPLC components. Discover why different characteristics of instruments such as gradient dwell volume and system band-spreading can be important. Look at using suitability tests to determine that a system is operating correctly.

Factors Affecting Reversed-Phase Selectivity

Discuss selection and use of reversed-phase columns and mobile phases, compare different RP columns compare of acetonitrile and methanol as mobile phase components. Find out when to use buffers and the importance of mobile phase pH and ionic strength when sample components are acidic or basic. Learn how to prepare mobile phase solutions and the variables that can affect separation ruggedness and reproducibility.

Sample Preparation Techniques

Those attending will look at simple procedures for offline and online removal of particles and interfering substances to prolong column life, and will learn to understand the "dos and don'ts" for making samples more compatible with columns and mobile phases.

System Calibration and Quantitation (Workshop)

See what effects varying %B and flow has on your chromatogram and peak areas. Peaks must be identified with pure standards available for every component analyzed.

2008 COURSE SCHEDULE

LC 101

April 16
September 17

LC 201

April 17
September 18

Course hours are 8:30 am to 4:30 pm.

Lunch will be provided.

LC101 and LC201 run consecutively to allow attendees to participate in both courses.

COURSE LOCATION:

Analytical Sales & Services, Inc.
230 West Parkway - Unit One
Pompton Plains, NJ 07444
973-616-0700

About your instructor

Dr. Richard Henry has given hundreds of seminars and courses on many HPLC topics, and those attending take away practical information that will help in their daily assignments. He is a retired professor of chemistry at Penn State University, a member of Sigma Xi, and is a long-standing member of the ACS Analytical Division, where he was Chairman of the Subdivision on Separations. The course will be taught in a manner that is specifically designed for intensive short courses. Course materials will be provided by Analytical Sales and Services.



COURSE OVERVIEW

LC201: Advanced HPLC

Acquire the level of expertise needed to develop rugged HPLC methods that have superior separation repeatability. Learn when to consider Ultra-HPLC for improving speed and resolution.

LC201 Course Content

Latest Developments in HPLC Columns and Stationary Phases

Students will learn structures of C18 and other stationary phases and how to group them by similarity or orthogonality. Develop an understanding of how the common LC modes such as reversed-phase, normal-phase and ion-exchange work; also learn when to use the less common LC modes of ion-pair, adsorption, hydrophilic interaction (HILIC) and multi-mode for difficult separation problems.

Mobile Phase Selection for Different Column Types

Solute equilibrium between mobile and stationary phase and description of solvent strength for various column modes. Look at the pros and cons of gradient versus isocratic conditions, and the importance of solute pKa and pH control in aqueous mobile phase modes. Determine selection of specific buffers and additives and preparation of solutions, and the affect of mobile phase temperature on separation with different modes.

Screening Conditions for HPLC Method Development

Look at selection of columns and mobile phases depend on compound types, design of generic mobile phase gradients for rapid column screening, and affect of detector choice on column and mobile phase selection. Determine the optimum response settings for UV, MS and other detectors. Perform a qualitative analysis on the fly-UV/DAD, MS. Look at guidelines for choosing sample solvent and volume.

System and Method Optimization: Ultra versus Traditional HPLC Systems

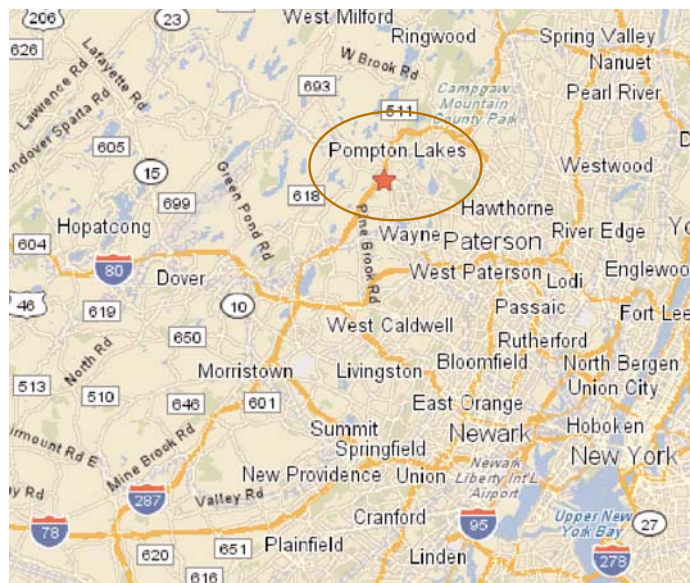
Look at adjusting columns and mobile phases for retention, speed, resolution and sensitivity. How important are new Ultra-HPLC instruments and columns; how much can be done with traditional HPLC systems? Look at the effect of system dwell volume on gradients and analysis time and measurement of dwell volume, and the effect of system or extra-column dispersion on efficiency and resolution. Review system variables that control method ruggedness.

System Troubleshooting

Learn how to recognize and solve common problems related to instrument and column malfunction.

Hotel Accomodations

We recommend **The Regency House Hotel** located at 140 Route 23 North, Pompton Plains, N.J. 973-696-0900. A special discounted rate has been arranged for our course attendees (currently \$79 per night).



Analytical Sales & Services is conveniently located off Route 287 and Route 23 in Pompton Plains, NJ.

