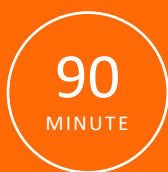


HPLC*: Basics 101

(*High Performance Liquid Chromatography)

DIRECTED BY

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ACCREDITED
COURSE

Course Topics Include:

- The basic chromatogram, nomenclature, and integrations
- Detector and their functions, picking the right detection for your sample
- Basics of different types of methods (Separation of different types of molecules)
- Avoiding issues with columns and instrument proper care
- Quantitative analysis, the standard curve, and use of proper controls
- Troubleshooting method and HPLC issues

about the course

HPLC is one of the most widely used and versatile analytical instruments in the laboratory today. Because of the many different modes of operation, it can be difficult for many to understand some of its complexities. But with proper training, HPLC can be the tool of choice for the analytical chemist.

This HPLC course is designed to help new users become familiar with all aspects of the HPLC.

This 90-minute accredited course will help any new user get started by giving practical information on HPLC theory, its many modes of operation and how to ensure that the analysis and the HPLC are working properly. New HPLC users who take this course will be empowered with the tools they need to get a solid start using this analytical tool with its many valuable and versatile analytical uses.

who should attend

This online training will be most useful for people with little to no experience with HPLC or who perform routine testing using HPLC. This course will benefit laboratory personnel in many industries including: pharmaceutical – traditional and phytochemical, food, beverage, environmental, chemical, and personal products.

The potential job functions would be entry-level laboratory personnel with no HPLC

experience, laboratory technicians who wish to gain a better understanding of HPLC theory and its applications, researchers with degrees in other disciplines who need to begin their own HPLC work. This includes: organic synthesis, quality control, and methods development chemists and various research personnel. The departments in companies involved with the use of HPLC in research/development or quality control/quality assurance should insist their new personnel attend if they are not being trained in-house or as a supplement to their in-house training.

learning objectives

Upon completion of this course, you will be able to:

- Describe how and why HPLC works and which types of HPLC will work for your company
- List all the HPLC system components and how to keep them properly maintained (the hardware)
- Describe the LC theory and its many modes of operations
- Apply techniques to ensure that methods are working properly and how to properly evaluate the data
- Solve and/or prevent some common problems that might arise

course outline

Review of Learning Objectives

Module 1: Why HPLC and how does it all work?

- HPLC the backbone for many analytical application
- The basic Chromatogram, nomenclature, and integrations
- Solvent Reservoirs degassers and their importance.
- Isocratic versus gradient, the importance of the pump and mixing cells
- Auto-injectors and vials, the detail matter.
- Detectors and their functions, picking the right detection for your sample.
- Different types of HPLC (HPLC, UPLC, and Biosystems)

Module 2: The HPLC Column and the method: How they work.

- Column Nomenclature: Resin, Guard Column, Column ID
- Basics of different types of methods (Separation of different types of molecules)
- SEC, Reserved-Phase, Ion exchange, mixed mode
 - Theory of method type
 - Column differences
 - When to use each type of method for Purity, identity, quantitation
- Avoiding issues with columns and instruments proper

Module 3: HPLC Calculations and ensuring the method is working properly.

- Monitoring peak shape: Tailing equation
- Monitoring efficiency: Theoretical plates
- Monitoring separation: Resolution
- Purity Method and the use of proper control
- Quantitative analysis, the standard curve, and use of proper controls.
- Troubleshooting method and HPLC issues

Question and Answer Session

Assessment Opportunity

course instructor

Rachel Monsef is a consultant to the biopharmaceutical and pharmaceutical industry for analytical and quality control. She has 22 years of experience working with many types of assays for all stages of drug development. Ms. Monsef has been responsible for method development, method qualification, method validation, method transfers, characterization work, and stability studies. She has been involved in method troubleshooting and assisting with “troubled” validations. Ms. Monsef has worked extensively with coordinating method development and validation work at CMO’s as well as troubleshooting methods that do not have the robustness needed for regulatory compliance. She previously worked for Alder (now Lundbeck) and Seagen and is now consulting for both companies.

Accreditations



International Accreditors for Continuing Education and Training (IACET)

Cobblestone has been approved as a CEU Accreditor by IACET and awards CEUs for participation in qualified courses. Cobblestone has demonstrated that it complies with the ANSI/IACET Standards and is authorized to offer IACET CEUs for its programs. CEUs will be awarded for participation in Cobblestone’s courses at the rate of .1 CEU per contact hour upon successful completion of the entire course and 70% accuracy in the required Learners’ Assessment. A minimum score of 80% is required for all courses within a Cobblestone Certification Program. This course offers a total of 1.5 contact hours, or .2 CEUs. For further information, visit www.iacet.org