

HPLC-101

# Introduction to HPLC Modular Instrumentation – LC-40

This course consists of classroom and laboratory activities.

**Duration:** 4 days

**Items needed:** Everything needed is provided in the class.  
A personal laptop is recommended.

## Course Description

This course covers the skills required by an analyst to successfully analyze unknown samples using a modular Shimadzu LC-40 system with LabSolutions software. Participants will learn to operate the HPLC hardware, create methods, acquire and process data, and calibrate methods for quantitative analysis. Instrument maintenance and troubleshooting is also covered.

## Learning Outcomes

Learning outcomes are the competencies the learner will acquire during this course. At the end of this course the learner will be able to:

- List and explain the functionality of each part of the HPLC system
- Demonstrate proper instrument start-up, purging and equilibration
- Create effective and efficient isocratic and gradient methods
- Perform data acquisition with LabSolutions software
- Process data files in LabSolutions and apply correct integration
- Create a calibration curve and quantitate an unknown sample
- Describe how hardware and method parameters affect a chromatogram
- Demonstrate the ability to identify and correct common HPLC problems

## Certification

To meet every learners' need, each course has two certification paths:

- 1) **Completion** – for those who require evidence the learning outcomes have been achieved.
- 2) **Attendance** – for those who don't want assessment.

To gain a certificate of completion, a passing grade of  $\geq 70\%$  of the total points available from assessments is required and, for in-person training,  $\geq 90\%$  attendance is required.

## Registration

To register for this and all other Shimadzu Scientific Instruments training courses see directions on the next page. If you have any questions about registration, please email [training@shimadzu.com](mailto:training@shimadzu.com).

For managers or administrators, or those otherwise tasked with signing up a learner other than themselves, be sure to create an account with the learner's information.



AA/ICP-MS

Balances

Biotech/MALDI

EDX-RF/XRD

Fluorescence

FTIR

GC

GC-MS/MS

HPLC/UHPLC

LC-MS/MS

Particle Size

Software

Testing Machines

Thermal

TOC/TN/TP

UV-VIS-NIR

## Create an Account

1. Visit <https://shimadzu.geniussis.com/PublicStudentSignUp.aspx>.
2. Fill in all fields on the page. Food Allergies is a required field to best serve our in-person learners. This information is not shared with anyone.
3. Click Register. You will be taken to your dashboard.

## Register for a Course

1. Click "Register for Course" in the left-navigation menu.
2. Click "Register" on the course or courses of your choice. This will place your course(s) in the cart.
3. Click the cart icon and then "Proceed to Checkout" in the popup or click "Proceed to Checkout" on the page.
4. Expand the "Payment Methods" form and select your payment method from the two options: Credit Card and P.O./Quote Number. If you select P.O./Quote Number, fill-in a P.O or Quote Number.
5. Click Submit.
6. You are now enrolled in the course(s). You may receive a follow-up phone call from a Customer Service Representative to finish collecting Credit Card payment or to verify your P.O./Quote Number.

The screenshot displays the Shimadzu Learner interface. On the left, a navigation menu includes 'Shimadzu Learner', 'Log back in', 'Logout', 'Learner', 'Dashboard', 'Register for Course' (highlighted with a red box and a circled '1'), 'Withdraw from Course', 'Print Transcript', and 'Edit Account'. The main content area features the Shimadzu logo and 'Excellence in Science' tagline. A search bar with 'Find Course' and 'Advanced Filters' is present, along with a 'Proceed to Checkout' button (highlighted with a red box and a circled '3'). Below the search bar are filters for 'All categories', 'All Dates', 'All Delivery Methods', and 'All locations'. Three course cards are displayed: 'HPLC-102: Introduction to HPLC Integrated Instrumentation' (Face-to-face | Oct 20, 2020, 8 seats available, Duration: 3 days), 'eHPLC-101: Introduction to HPLC Modular Instrumentation - LC20/30' (Online | Dec 14, 2020, 10 seats available, Duration: Self-Paced), and 'HPLC-101: Introduction to HPLC Modular Instrumentation' (Face-to-face | Jan 5, 2021, 8 seats available, Duration: 4 days). Each card has an 'Info' button and a 'Register' button (the latter is highlighted with a red box and a circled '2').

## About Shimadzu Scientific Instruments' Training

Shimadzu Scientific Instruments' training has helped thousands of scientists advance their careers through a wide variety of instrument and application training courses. Guided by learning science, these courses are designed by our team of subject-matter experts and learning professionals to provide a tailored blend of information and practice. For our in-person courses, instruction is provided by highly trained specialists who are experts in their respective fields.

