

Syllabus for introduction to LC maintenance training

At SCIEX, our Success Technology Programs follow the proven spaced learning approach to maximize learning retention. The training process includes a unique blend of self-paced eLearning, instructor led and hands-on training provided at the customer site.

Course goals and outcome

This training course provides a variety of hands-on LC maintenance exercises with a focus on your LC system, and is supported by a series of easy-to-use Quick Reference Guides. It is intended for those who have completed a Success Program, or have some operational experience with SCIEX LC-MS systems.

You will learn how to recognize LC issues on your LC system, and troubleshoot various chromatography issues. You will also learn how to proactively maintain your LC system, and how to exchange various consumable parts to keep your system running properly between regular maintenance visits.

Upon completion of the course, you will have a deeper understanding of LC troubleshooting. This will enable you to increase your lab's productivity and uptime of your LC-MS system, and reduce the need for service call outs or remote assistance. You will gain knowledge of which consumables to keep on-site to increase your system uptime.

Training program overview

Your Success Technology Training includes the following:

- 1 day of instructor led and hands-on training provided at your site by Service personnel
- Related self-paced eLearning courses, lectures, reference material and lab exercises
- Complimentary follow-up WebEx session with an Applications Support Scientist
- Workflow certification upon successful completion of final exam and permanent access to all course materials for reference
- Access to SCIEX Now Learning Hub database of >100 eLearning courses
- Access to SCIEX Now online support tools available for up to 3 Learners
- P.A.C.E.[®] Continuing Education Credits for on-site training and selected online eLearning courses

Instructor-led training topics for Shimadzu and ExionLC AD/AC systems

- Replace the autosampler needle
- Replace pump seals
- Replace pump plunger
- Replace low pressure rotor seal
- Replace high pressure rotor seal

- Replace check valves
- Replace autosampler plunger and plunger seal
- Resetting counters
- Understanding access controls
- Autosampler calibration and position adjustment
- Routine maintenance tasks

Instructor-led training topics for Agilent systems

- Using Lab Advisor software
- Disassemble and maintain pump heads (pistons, support rings, piston seals, wash seals and gaskets as applicable)

Note: for Agilent 1290 Infinity and Infinity II pumps, this task will only be performed for Easy Maintenance and Long Life pumps.

- Replace seal wash peristaltic pump (if applicable)
- Replace PTFE frit for purge valve and replace seal cap assembly in pump
- Replace inline and high pressure filter frits in pump
- Replace pump seal cap assembly for outlet valves (if applicable)
- Pump seal wear-in procedure
- EMF reset
- Replace autosampler needle
- Replace autosampler needle seat
- Replace autosampler rotor seal
- Replace autosampler peristaltic pump
- Autosampler calibration and position adjustment
- Replace autosampler plunger and plunger seals
- Replace sample loop
- Replace rotor seal in column oven if valve is installed
- Replace column oven flow cell

Troubleshooting LC issues

- Constant carryover
- Classic carryover
- Retention time shift
- Poor chromatography

Instructor-led training topics for ExionLC 2.0 and 2.0+ systems

- Replace pump seals
- Flush the autosampler
- Purge the pump
- Replace pump filter cartridge
- Replace autosampler air needle

- Replace autosampler sample needle
- Replace check valves
- Replace detector flow cell
- Replace pump mixer
- Replace autosampler syringe
- Replace pump rotor seals
- Replace autosampler rotor seals
- Replace wash system rotor seals
- Replace valve drive rotor seals

The LC system must be installed and configured before the training. Most of the maintenance tasks executed during the training will be performed by removing parts and replacing using the existing parts. However, for some tasks, the parts cannot be replaced. For these tasks, the course includes consumables for use during the training as detailed in [Required consumables for introduction to LC maintenance training](#).

Consumables for use during the training must be ordered and delivered prior to the start of the training. Please consult with your trainer to arrange the order of the appropriate consumables for your system prior to the delivery of your training.

For Agilent 1290 and 1290 Infinity and Infinity II pumps, disassembly of the pump heads will only be performed for Easy Maintenance and Long Life pumps. For Classic pumps, the pump heads will be removed and reinstalled with no disassembly.

P.A.C.E.[®] certification

SCIEX is approved as a provider of continuing education programs in the clinical laboratory sciences by the ASCLS P.A.C.E.[®] Program. Learners interested in obtaining a P.A.C.E.[®] certificate and P.A.C.E.[®] accreditation for taking this course (equal to 6 P.A.C.E.[®] credits) must attend the entire training session and complete a brief evaluation survey.

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Headquarters
500 Old Connecticut Path | Framingham, MA 01701 USA
Phone 508-383-7700
sciex.com

International Sales
For our office locations please call the division
headquarters or refer to our website at
sciex.com/offices