Syllabus for 2 day advanced LC-MS method development at customer site

SCIEX training courses follow the proven spaced learning approach to maximize learning retention. The training process includes a blend of instructor-led training, hands-on laboratory exercises and self-paced eLearning, provided at the customer site.

Course goals and outcome

This course is intended for learners who have completed a SCIEX Now Learning Hub Success Program, or have significant operational experience with SCIEX LC-MS systems. This course is intended to provide a user with the knowledge necessary to successfully perform LC-MS method development.

Upon completion of the course, you should be comfortable with optimizing compound and source method parameters in both ESI and APCI modes, using advanced MS method parameters, understanding quantitation parameters, using outlier settings, metric plots, reports and queries, and developing an LC method.

This course offers a workflow certificate upon completion of a final knowledge assessment.

Training program overview

Your training includes the following:

- 2 days of instructor-led and hands-on training provided at the customer site by an experienced Applications Support Scientist
- Related self-paced eLearning courses, lectures, reference material and lab exercises
- Complimentary follow-up virtual session with an Applications Support Scientist
- P.A.C.E.® Continuing Education Credits
- Access to SCIEX Now Learning Hub database of >100 eLearning courses
- Access to SCIEX Now online support tools available for up to 3 learners
- Hands-on focus for 1 Primary learner and up to 3 learners total for demonstration and content
- Workflow certificate upon successful completion of final exam and permanent access to all course materials for reference

Instructor-led training topics

- SCIEX OS overview
- Hardware overview
- Instrument tuning and calibration
- MS method creation
- Compound and source parameter optimization for MS methods
- LC method creation
- Create and submit batches
- Data processing
- System maintenance, troubleshooting and best practices
- ESI MS method development
  - ESI compound optimization
  - ESI source and gas optimization
- APCI MS method development
  - APCI compound optimization
  - APCI source and gas optimization
- Advanced MS method parameters
  - Scheduled MRM algorithm
  - Multiple experiments and periods
  - Scheduled ionization
  - Detuning
- HPLC method development
  - Column and buffer selection
  - Injection volume and sample loop
  - Gradient optimization
  - Peak shape issues
- Quantitation troubleshooting and reporting
  - Important MQ4 and SignalFinder integration parameters
  - Outlier settings
  - Ion ratios
  - Metric plots
  - Creating reports
  - Using queries in reports and results tables
- Method development challenge
  - Practical exercise designed to test method development skills

The LC-MS system must be installed and configured before the training. Refer to the **Required consumables for 2 day advanced LC-MS method development at customer site** document for consumables that you must provide for use during the training.

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 12 P.A.C.E.® credits) must attend the entire training session and complete a brief evaluation survey.

SCIEX

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Required consumables for 2 day advanced LC-MS method development at customer site

Our training courses follow the proven spaced learning approach to maximize learning retention. The training process includes a blend of instructor-led training, hands-on exercises and self-paced eLearning, provided at the customer site. This training course provides a variety of variety of instructor led training and hands-on laboratory exercises, and finishes with a Method development challenge.

For this training to be successful, the LC-MS system must be installed and configured before the training. **Table 1** lists consumables that are needed for use during the training.

Table 1: Required consumables needed for training

Description	Part number	Size
Triazine standard solution	*4376887*	*N/A*
Phenomenex Synergi 4 µm Fusion-RP 80Å HPLC column	*4376878*	*50 mm × 2.0 mm*
PEEK tubing	*4425163*	*0.13 × 3000 mm*
PEEK tube cutter	*011281*	*N/A*
Syringe	*WC010615*	*1 mL*
Syringe needle	*1005819*	*1 mL*
Syringe adapter	*1008236*	*N/A*
Fitting PEEK tee 0.020 in BORE	*1006550*	*N/A*
LC-MS grade water	*N/A*	*N/A*
LC-MS grade methanol (stored in glass bottles)	*N/A*	*N/A*
LC-MS grade acetonitrile (stored in glass bottles)	*N/A*	*N/A*
Formic acid	*N/A*	*N/A*

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