Syllabus for 3 day advanced LC-MS/MS quantitation: method development and troubleshooting at SCIEX

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 a SCIEX location.

Course goals and outcome

This course is intended for those who have completed a Success Program and have at least one year of operational experience with SCIEX LC-MS systems. It is focused on small molecule quantitation and is designed to provide experienced users with the knowledge necessary to successfully perform LC-MS method development and troubleshoot common MS and HPLC issues. It provides a variety of hands-on exercises, best practices and finishes with a Troubleshooting challenge. It is delivered at a SCIEX location by an experienced SCIEX instructor.

Upon completion of the course, you should be comfortable with performing instrument tuning and calibration, optimizing a compound in ESI and APCI mode, understanding how to build a robust LC-MS method, troubleshooting common issues with method development and your LC-MS system, understanding quantitation parameters, and identifying issues with your processed results.

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

Training program overview

Your training includes the following:

- 3 days of instructor-led and hands-on training provided at a SCIEX location by an experienced instructor
- Related self-paced eLearning courses, lectures, reference material and lab exercises
- Access to SCIEX Now Learning Hub database of >100 eLearning courses
- Access to SCIEX Now online support tools
- Workflow certificate upon successful completion of final exam and permanent access to all course materials for reference
- P.A.C.E.® Continuing Education Credits

Instructor-led training topics

- Mass spectrometry fundamentals
- LC-MS theory
- Instrument tuning and calibration
- Building robust LC-MS methods
  - Effect of solvent on ionization
  - Converting methods between different SCIEX instruments
- ESI and APCI method development
  - Optimizing difficult compounds
  - Manual and automated compound optimization in APCI mode
  - Scheduled MRM method creation
  - Determining matrix effects
- LC-MS troubleshooting
  - HPLC and MS best practices and troubleshooting
- Quantitation troubleshooting
  - Important integration parameters
  - Flagging outlier samples
  - Ion ratios
  - Metric plots
- Troubleshooting challenge
  - Practical exercise designed to test troubleshooting skills

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

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