

Introduction to Infrared Spectroscopy**L020-0121****1 Day****Tuition****£385**

This course provides a foundation for those who are using infrared spectroscopy for the first time. It is also a refresher for those who have not seriously used infrared since college.

Prerequisites

As this is a beginner's course, there are no minimum entry requirements.

Lectures and Labs

- Simple infrared theory
- Good quality spectra
- Principles of instrument operation
- Review of sampling techniques
- Principles of spectral interpretation

Related Courses

This course may be followed by one or more of the Operator courses, the Sampling course and the Advanced Infrared Spectroscopy course. Others also offer a good understanding of many aspects of infrared spectroscopy.

The course duration is one day, starting at 9:30 and ending at 16:30.

Please visit www.perkinelmer.com/service for registration options and cancellation/refund policies.

Introduction to Quantitative IR Analysis**L020-0123****1 Day****Tuition****£385**

The classical approach to quantitative analysis forms the basis of this course, which leads the attendee towards an understanding of how to achieve optimum results in quantitative infrared analysis. (Note: this course does NOT cover Quant+ software or chemometrics.)

Prerequisites

Attendees should have a working knowledge of recording infrared spectra. Specific examples should be discussed with the instructor well before the start of the course.

Lectures and Labs

- Theoretical basis (Beer's Law)
- Spectral quality for quantitative analysis
- Calibration requirements
- A simple quantitative determination
- Results assessment
- Use of spectrum Beer's Law software

The course duration is one day, starting at 9:30 and ending at 16:30.

Related Courses

Attend the Introduction and/or Operator courses before attending the Quantitative course. Analysts who require training in the use of and interpretation of Quant+ software should plan to attend the Advanced Quantitative course.

Please visit www.perkinelmer.com/service for registration options and cancellation/refund policies.

Interpretation of Infrared Spectra**L020-0127****4 days****Tuition £1,150**

These courses are for those who wish to gain experience in the interpretation of infrared spectra. Attendees learn the key group frequencies, build correlation tables and become familiar with the principles of interpretation using numerous examples of spectra. Finally the attendee learns how to use various types of software for interpretation.

Prerequisite

Attendees are expected to have a basic knowledge of chemistry and a working knowledge of general infrared spectroscopy.

Lectures and Labs

- Day 1: Brief résumé of IR theory, main group frequencies, general principles of interpretation with standard worked examples
- Days 2 & 3: Quality of spectra, correlation tables, detailed practical interpretation
- Day 4: Computer methods of interpretation and use of spectral libraries
Related Courses.

Related Courses

Attend the Introduction course prior to enrolling in this series of Interpretation courses.

This course can be split into three different levels:

- L020-0124 Interpretation of Infrared Spectra -
Level 1, 1 Day // Seer Green site, £385 per person
- L020-0125 Interpretation of Infrared Spectra -
Level 2, 2 Days // Seer Green site, £730 per person
- L020-0126 Interpretation of Infrared Spectra -
Level 3, 1 Day // Seer Green site, £385 per person

All courses are of four days duration, starting at 9:30 and ending at 16:30.

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Introduction to Near Infrared Spectroscopy

L020-0128

1 Day

Tuition

£385

This course provides a foundation for those who are starting to use near infrared spectroscopy for the first time. It is also a refresher for those who have not seriously used near infrared since college.

Prerequisites

As this is a beginner's course, there are no minimum entry requirements.

Lectures and Labs

- Simple near infrared theory
- Principles of instrument operation
- Good quality spectra
- Related Courses

This course is a useful precursor to the AssureID course. It may be taken before or after the Spectrum NTS Operator course.

The course duration is one day, starting at 9:30 and closing at 16:30.

Please visit www.perkinelmer.com/service for registration options and cancellation/refund policies.

Advanced Quantitative IR Analysis (Chemometrics)**L020-0129****1 Day****Tuition****£385**

This course leads the participant into an understanding of the principles behind the chemometrics approach to quantitative analysis, and offers guidance in the use and functionality of the Quant+ software.

Prerequisites

Attendees should have previously attended the Introduction to Quantitative Analysis course and be familiar with Spectrum for Windows software and the general principles of infrared spectroscopy.

Lectures and Labs

- How chemometrics can be applied to quantitative analysis
- Use of Quant+ software
- Method design review
- Examples of the use of Quant+
- User's analyses may be discussed if required

(Please contact the course instructor well beforehand.)

Related Courses

It is recommended that would-be attendees attend the Introduction to Quantitative Analysis course prior to attending the Advanced Quantitative Analysis course. These courses are often held back-to-back for the convenience of attendees who wish to attend the mini-series.

The course duration is one day, starting at 9:30 and closing at 16:30.

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Infrared Spectroscopy for Quality Control – 21CFR 11**L020-0140****1 Day****Tuition****£385**

This course provides an in-depth overview of the implications of 21CFR 11 and shows how to work with Spectrum CFR software to achieve compliance with the protocol.

Prerequisites

Attendees should have a working knowledge of principles of infrared spectroscopy, the use of their FT-IR spectrometer and the requirements of their laboratory in terms of 21CFR 11. This course is designed specifically for lab managers and others who may be in a supervisory role.

Lectures and Labs

- What is 21CFR 11?
- How Spectrum CFR meets requirements
- The role of the administrator and other groups
- How to set the Spectrum CFR software options
- Data archiving

All courses are of one-day duration, starting at 9:30 and ending at 16:30.

Please visit www.perkinelmer.com/service for registration options and cancellation/refund policies.

Advanced Infrared Spectroscopy**L020-0142****2 Days****Tuition £730**

This general two-day course is for operators of infrared spectrometers who wish to build on their basic knowledge of infrared spectroscopy.

Prerequisites

Attendees should have previously attended the Introduction course.

Lectures and Labs

- FT-IR theory
- Practical infrared for qualitative analysis
- Optimization of scanning parameters
- Methods of spectral comparison

The course duration is two days, starting at 9:30 and closing at 16:30.

Please visit www.perkinelmer.com/service for registration options and cancellation/refund policies.

Infrared Spectroscopy for Quality Control

L020-0150

1 Day

Tuition

£385

This course offers a better understanding of the use of FT-IR spectrometer in the QC/QA environment. Validation and an assessment of spectral quality form the basis of this course.

Prerequisites

Attendees should be familiar with the principles of infrared spectroscopy.

Lectures and Labs

- Use of infrared spectroscopy as a QC tool
- Validation
- The use and abuse of the COMPARE function
- Spectral quality
- Quantitative analysis in the QC environment
- Use of methods/procedures in the QC lab

Related Courses

The course duration is one day, starting at 9:30 and ending at 16:30.

Please visit www.perkinelmer.com/service for registration options and cancellation/refund policies.

Programming with Spectrum Procedures – Modular**L020-0171****5 Days****Tuition £1,500**

Automating FT-IR methods has many advantages for repetitive processes – fewer keystrokes, less chance of mistakes and a tamper-proof method. This course covers the basic requirements for attendees to write their own programs to automate their analyses. Finished results are executable files that cannot be tampered with.

Prerequisites

Attendees should have a working knowledge of Spectrum for Windows infrared software and sampling using an FT-IR or FT-NIR spectrophotometer. No computer programming knowledge is assumed, although some experiences of early versions of Basic would be helpful.

Lectures and Labs

- Day 1: Visual Basic® v.3, or v.4 (16-bit)
- Day 2: Spectrum Obey language and structure
- Day 3: Spectrum procedures and their interaction with Obey
- Day 4/5: Writing “real” programs.

Although completion of any project cannot be guaranteed within the week, it is expected that enough will be covered for all attendees to be able to complete them easily after return. Ongoing support may be available.

Related Courses

The Spectrum for Windows Software course would be a useful precursor to this course. The course duration is five days, starting at 9:30 and ending at 16:30.

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