



GP-202

Fundamentals of Alpha Spectroscopy



DESCRIPTION

This 2-day course covers the complete range of alpha spectroscopy principles from a review of radiation detection principles to evaluation of results and everything in between. This is a concentrated, concise, fast-paced course that includes a practical approach to all aspects of alpha spectrometry. This course is not a hardware or software operations course but does include an introduction to Mirion alpha spectroscopy software. The course is entirely in lecture format and includes mathematical exercises for many of the calculations germane to alpha spectroscopy.

HOW YOU WILL BENEFIT

Attendees who complete this course will gain a thorough understanding of all of the fundamental processes which contribute to the collection and analysis of alpha spectral data. This knowledge will allow the attendee to understand the operation of alpha spectroscopy systems and accurately interpret basic alpha spectral analysis results. Managers and supervisors benefit from the assurance that the technologist has a thorough working understanding of the fundamental principles that guide successful alpha spectroscopy analyses.

WHO SHOULD ATTEND

New technologists or supervisory personnel who need to gain a thorough understanding of the process by which alpha spectrometric measurements are made. This course is also suitable for experienced technologists desiring an alpha spectroscopy fundamentals refresher.

COURSE CONTENT

- Review of Alpha Radiation Detection Principles
- Alpha Spectroscopy Signal Chain Components
- Energy and Peak Shape Calibrations
- Region of Interest, Peak Search and Peak Area Calculations
- Efficiency Calibrations
- Nuclide Identification and Activity Calculations
- Detection Limit and MDA Calculations
- Quality Assurance and Quality Control Considerations
- Evaluation of Alpha Spectroscopy Analysis Results
- Introduction to Mirion Alpha Spectroscopy Software

PREREQUISITES

Mirion GP-101 Principles of Radiation Detection training course or equivalent knowledge and experience. A complimentary screening through a placement exam is strongly recommended if course GP-101 has not been completed in the previous 12 months.