



GP-302

Applied Principles of Alpha Spectroscopy



DESCRIPTION

This course is the “capstone” session for Mirion’s Alpha Spectroscopy fundamentals program. This course builds on the content of Principles of Radiation Detection and Fundamentals of Alpha Spectroscopy, tying together all of the principles into a series of relevant practical exercises. The course is a practicum to demonstrate the principles taught in the prior courses and provide hands-on experience for each technologist in all aspects of alpha spectroscopy system setup and operation. The course is 16 hours in duration, with approximately 80% of the time allocated for student exercises.

HOW YOU WILL BENEFIT

Attendees who complete this course will gain a comprehensive working knowledge of the setup and operation of basic alpha spectroscopy systems. This knowledge will allow the attendee to understand how to calibrate, operate, and interpret the results from these systems in a reliable manner. Managers and supervisors benefit from the assurance that the technologist has a thorough working knowledge of the use of alpha spectroscopy instrumentation.

WHO SHOULD ATTEND

Technologists or supervisory personnel who have acquired theoretical knowledge of alpha spectroscopy principles and desire hands-on experience in applying that knowledge during practical measurement exercises. This course is also suitable for experienced technologists desiring a practical alpha spectroscopy refresher.

COURSE CONTENT

- Review of the Principles of Radiation Detection
- Review of the Fundamentals of Alpha Spectroscopy
- Practical exercises, including:
 - Basic Alpha Spectroscopy System Hardware Setup
 - Selection and Setup of Alpha Spectroscopy System Operating Parameters
 - Alpha Spectroscopy System Energy Calibrations
 - Gamma Spectroscopy System Peak Shape I Calibrations
 - Alpha Spectroscopy System Efficiency Calibrations
 - Alpha Spectroscopy System Sample Counting Setup
 - Alpha Spectroscopy Sample Counting and Analysis
 - Alpha Spectroscopy Sample Analysis Results Review
 - Gamma Spectroscopy System Quality Assurance Operations
 - Alpha Spectroscopy System Quality Assurance Operations

PREREQUISITES

Mirion courses GP-101, Principles of Radiation Detection, and GP-202, Fundamentals of Alpha Spectroscopy, or equivalent education and experience. A complimentary screening through a placement exam is strongly recommended if these courses have not been completed in the previous 12 months.