



## GP-201

# Fundamentals of Gamma Spectroscopy



### DESCRIPTION

This 2-day course covers the complete range of gamma 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 gamma-ray spectrometry. This course is not a hardware or software operations course but does include an introduction to Mirion gamma spectroscopy software. The course is entirely in lecture format and includes mathematical exercises for many of the calculations germane to gamma 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 gamma-ray spectral data. This knowledge will allow the attendee to understand the operation of gamma spectroscopy systems and accurately interpret basic gamma-ray 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 gamma spectroscopy analyses.

### WHO SHOULD ATTEND

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

### COURSE CONTENT

- Review of Gamma Radiation Detection Principles
- Gamma Spectroscopy Signal Chain Components
- Energy and Peak Shape Calibrations
- 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 Gamma Spectroscopy Results
- Introduction to Mirion Gamma Spectroscopy Software

### PREREQUISITES

Mirion Course GP-101 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.