

Module	Learning Objectives
Aseptic Behavior	<ul style="list-style-type: none"><li>• Review key cleanroom behaviors utilized to prevent contamination.</li><li>• Discuss the importance of proper health and hygiene practices for personnel who work in cleanrooms.</li><li>• Review similarities and differences of open vs. closed systems / aseptic processing vs. terminal sterilization.</li><li>• Convey acceptable and unacceptable cleanroom behaviors.</li></ul>
Aseptic Gowning / Gloving Principles: Overview and Demonstration	<ul style="list-style-type: none"><li>• Review industry / site gowning expectations.</li><li>• Demonstrate proper gowning / gloving technique.</li><li>• Trainees practice proper gowning / gloving technique with trainer support.</li></ul>
Aseptic Gowning / Gloving: Practice and Verification / Qualification	<ul style="list-style-type: none"><li>• Practice aseptic gowning / gloving techniques following the checklist of required steps, prior to qualification testing.</li><li>• Move to the cleanroom to gown / glove aseptically without critical technique failures (up to 3 times).</li><li>• Samples will be collected in an ISO 5 environment.</li><li>• Successful gowning results will meet the expected microbial contamination limits.</li></ul>
Aseptic Techniques	<ul style="list-style-type: none"><li>• Define aseptic technique.</li><li>• Review key aseptic concepts and techniques.</li><li>• Discuss proper use of aseptic processing systems (rooms, equipment).</li><li>• Review best material transfer / personnel and material flow / intervention practices.</li><li>• Describe cleanroom operations in relation to manufacturing parenteral products utilizing Aseptic techniques (general processes, interventions, spills, etc.)</li></ul>
Cleaning: Best Practices	<ul style="list-style-type: none"><li>• Review the proper flow of cleaning (cleanest to dirtiest).</li><li>• Discuss the importance of wiping surfaces with uni-directional strokes or other approved technique.</li><li>• Discuss industry standard / site materials used for cleaning (IPA, non-shedding wipes, wall mops, etc.).</li></ul>
Cleaning: Developing a Program	<ul style="list-style-type: none"><li>• Discuss critical considerations when designing a cleaning regimen for a facility, room, or equipment.</li><li>• Discuss the importance of having an approved, effective cleaning regimen combined with an EM program.</li><li>• Describe surfactants, disinfectants, sanitizers, and sporicidal agents and when / where they should be used.</li><li>• Discuss why it is recommended to rotate disinfectants each full clean.</li></ul>
Contamination Control	<ul style="list-style-type: none"><li>• Explain what contamination is and potential impacts.</li><li>• Review different types of contamination.</li><li>• Describe the methods to minimize the risk of contamination through engineering, procedural, and behavioral controls.</li><li>• Discuss why understanding contamination control principles is important.</li></ul>

## Module

## Learning Objectives

### Data Integrity (DI) Overview

- Review 21 CFR 11 requirements and their impact on electronic signatures and record keeping requirements.
- Review and discuss meaning and importance of ALCOA+.
- Recognize regulatory expectations for data handling and data integrity assurance.
- Review potential consequences of poor data integrity practices.
- Review DI violations and US FDA 483's / Warning Letters pertaining to lack of good handling of data.

### Environmental Monitoring (EM): Program Development

- Review room classifications and allowable concentration limits for particulates and microbial contaminants.
- Define regulatory expectations of an EM program.
- Discuss the necessary components for an effective EM program for controlled environments.
- Define and discuss HEPA filters and the importance / frequency for HEPA certifications.
- Use risk analysis to develop a sampling plan to determine the quantity and type of samples required based on room size and room classification.

### Environmental Monitoring (EM): Sampling and Trending

- Define the different methods of sampling (particulate readers, air samplers, contact/settle plates).
- Review requirements for regular trending of EM data.
- Define what high traffic areas and touchpoints are (i.e. worst case locations).
- Demonstrate and practice proper sampling techniques.
- Review FDA 483's related to insufficient EM programs.

### Good Documentation Practices (cGDocP)

- Describe the importance and principles of cGDocP.
- Define and distinguish types of documents found in a cGMP environment.
- Detail requirements for document creation, control, maintenance, archival, and retention.
- Identify requirements for record keeping, including entering and correcting data.
- Review cGDocP violations and US FDA 483's / Warning Letters pertaining to lack of good practices.

### Good Manufacturing Practices (cGMP)

- Review the origin of cGMPs (and define the "c").
- Understand how cGMPs support the production of safe and efficacious products.
- Discuss Quality Systems and how they align with cGMP regulations / requirements.
- Describe the Code of Federal Regulations (CFR) and its importance.
- Discuss the benefits of good, and consequences of poor, quality.
- Review cGMP violations and US FDA 483's / Warning Letters pertaining to lack of good systems.

### Investigations: Best Practices for Collecting Information

- Define and examine the critical parts of an investigation with interactive exercises, including but not limited to:
  - Consistency when developing titles
  - Aspects of a detailed description
  - Documentation of immediate actions
  - Performing historical reviews
- Items to review and pathways to explore during data collection.
- Provide the complete story.

Module	Learning Objectives
Investigations: CAPA (Corrective / Preventative Actions) and Effectiveness Checks	<ul style="list-style-type: none"> <li>• When should you initiate a CAPA?</li> <li>• Tying repeated issues to an on-going CAPA.</li> <li>• Provide guidance on when to implement a CAPA.</li> <li>• Review of elements that make up an effective CAPA.</li> <li>• Discuss Effectiveness Checks and their importance.</li> </ul>
Investigations: Overview	<ul style="list-style-type: none"> <li>• Review the importance of conducting thorough investigations.</li> <li>• Discuss the different activities that investigations support.</li> <li>• Review the key components required for a complete investigation.</li> <li>• Discuss effective investigation programs.</li> </ul>
Investigations: Regulatory Requirements	<ul style="list-style-type: none"> <li>• Identify the regulations governing investigations.</li> <li>• Review consequences of performing inadequate investigations.</li> <li>• Review examples of FDA citations (483's / Warning Letters) pertaining to lack of or inadequate investigations.</li> </ul>
Investigations: Root Cause Analysis (RCA) Overview	<ul style="list-style-type: none"> <li>• Define root cause.</li> <li>• Identify and review common RCA tools.</li> <li>• Root cause vs. contributing cause.</li> <li>• How to tell that you've found true root cause.</li> <li>• Determining "repeat" events.</li> </ul>
Isolators: Cleaning and Disinfecting	<ul style="list-style-type: none"> <li>• Discuss methodologies for cleaning and disinfecting the interiors of isolators.</li> <li>• Discuss current decontamination options and proper decontamination techniques.</li> <li>• Describe what configurations need to be set on the isolator when performing a decontamination process.</li> <li>• Discuss considerations when working with products sensitive to oxidation by H<sup>2</sup>O<sub>2</sub>.</li> </ul>
Isolators: Design Principles	<ul style="list-style-type: none"> <li>• Discuss isolator design to minimize contamination risk.</li> <li>• Discuss pressure differential and what it should be between the isolator interior and the surrounding area.</li> <li>• Design and maintenance considerations for gloves and glove ports.</li> <li>• Review cleaning/sanitization options.</li> <li>• Discuss ergonomic considerations.</li> <li>• Review glove ports.</li> </ul>
Isolators: Maintenance and Integrity Testing of Isolators and Gloves	<ul style="list-style-type: none"> <li>• Describe an effective maintenance plan for gloves.</li> <li>• Review common issues with gloves, glove ports, and isolators.</li> <li>• Discuss methods that should be used for integrity testing of isolators and gloves.</li> <li>• Discuss how to handle a glove integrity failure.</li> </ul>
Isolators: Proper Aseptic Behaviors	<ul style="list-style-type: none"> <li>• Discuss proper gowning requirements for working with an isolator and the surrounding room.</li> <li>• Discuss the importance of disinfecting gloves prior to entering the isolator gloves.</li> <li>• Discuss proper aseptic techniques utilized when working with isolators.</li> <li>• Discuss proper techniques for performing media fills inside the isolator.</li> <li>• Describe material transfer methodology related to isolators.</li> <li>• Review tips and tricks based on years of experience.</li> </ul>

Module	Learning Objectives	
New Employee Orientation	<ul style="list-style-type: none"> <li>• Company and Site Overview (specific)</li> <li>• Company History</li> <li>• Mission and Values</li> </ul>	<ul style="list-style-type: none"> <li>• Safety Procedures</li> <li>• Site Security / IT</li> <li>• Emergency Procedures</li> </ul>
Regulations and Regulatory Authorities	<ul style="list-style-type: none"> <li>• Understanding the Code of Federal Regulations (CFR).</li> <li>• Review the history and scope of Regulatory Bodies.</li> <li>• Explain the function of Regulatory Authorities.</li> <li>• Overview of the different Regulatory Agencies.</li> <li>• Describe the impact of noncompliance with regulations.</li> </ul>	
Quality Systems Introduction	<ul style="list-style-type: none"> <li>• Describe the role of the quality system and its importance in the industry.</li> <li>• Discuss entities and associated guidances that provide expectations for quality systems.</li> <li>• Review the different aspects that comprise the quality system.</li> <li>• Describe the importance of continuous improvement.</li> <li>• Review Quality System violations and US FDA 483's / Warning Letters / Consent Decrees pertaining to lack of a Quality System.</li> </ul>	
Train the Trainer: Adult Learning Styles	<ul style="list-style-type: none"> <li>• Review main learning styles - Auditory, Visual and Kinesthetic.</li> <li>• Look at how adults learn and retain knowledge.</li> <li>• Discuss approaches to increasing knowledge retention.</li> <li>• How much repetition is necessary for adults?</li> </ul>	
Train the Trainer: Coaching and Mentoring Real Time	<ul style="list-style-type: none"> <li>• Discuss the difference between Coaching and Mentoring.</li> <li>• Real time strategies to highlight and lock in desired behaviors.</li> <li>• Provide immediate feedback whenever possible.</li> <li>• Review conflict management strategies.</li> </ul>	
Train the Trainer: How to Effectively Train Adults	<ul style="list-style-type: none"> <li>• Recognizing the learning styles of your team.</li> <li>• Utilizing more than one style at a time to improve knowledge retention in the class.</li> <li>• Respect what adult students bring to the class (prior experience).</li> <li>• Learning goes both ways.</li> </ul>	

## Courses in Development

- 1) Technical Writing
- 2) Quality Risk Management / Performing Risk Assessments
- 3) Validation Principles
- 4) Complaint Management
- 5) Strategies for Continuous Improvement
- 6) Leadership Principles
- 7) Auditing (Internal and External)