



AZZUR TRAINING CENTER
An Azzur Group Company

CURRENT COURSES

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Course

Learning Objectives

Aseptic Behavior and Techniques

- Explain the basic differences between aseptic processing and terminal sterilization
- Distinguish between isolation technologies and open vs. closed systems
- Discuss the importance of proper health and hygiene practices for personnel who work in cleanrooms
- Review key cleanroom behaviors utilized to prevent contamination
- Discuss key principles of aseptic technique including critical areas and surfaces, first air rule, specific connections and working with pipettes

Aseptic Connections

- Define aseptic connections
- Review the types of aseptic connections
- Discuss the applications for aseptic connections

Aseptic Processing

- Define aseptic processing
- Overview of the history of aseptic processing
- Review similarities and differences of open vs. closed systems / aseptic processing vs. terminal sterilization
- Determine acceptable use of aseptic processing

Aseptic Processing: Systems

- Explain different aseptic processing systems and how those systems are used
- Define single-use systems and aseptic connections and discuss the proper implementation of these practices
- Review biosafety cabinet use and techniques
- Discuss the aspects of operating an isolator and the regulatory need for process simulations and media fills
- Explain the basics of process release sampling/testing as it differs between aseptic processing and terminal sterilization

Aseptic Techniques within Biological Safety Cabinets (BSCs)

- Describe the different classes of BSCs and their different uses
- Discuss the importance of aseptic technique as it applies to contamination control and maintaining proper airflow
- Demonstrate a number of learned techniques critical to aseptic operation, including how to aseptically introduce materials and how to set up your workstation within the BSC
- Review the significance of a regular cleaning and maintenance schedule



Course

Learning Objectives

Media Fill / Aseptic Process Simulation

- Define an Aseptic Process Simulation (APS)
- Discuss appropriate protocols for APS
- Define interventions and personnel qualification

Proper Aseptic Behaviors

- Discuss proper gowning requirements for working with an isolator and the surrounding room
- Discuss the importance of disinfecting gloves prior to entering the isolator gloves
- Discuss proper aseptic techniques utilized when working with isolators
- Discuss proper techniques for performing media fills inside the isolator
- Describe material transfer methodology related to isolators
- Review tips and tricks based on years of experience

Visual Inspections and Sample Handling

- Review the types of inspections required throughout the manufacturing process
- Discuss the common deformities typical to filling
- Basic information on handling samples

What is a Cleanroom?

- Basic introduction into cleanrooms, including:
 - o History
 - o Keeping it clean
 - o Classification system for ISO, EU, and FDA



Course

Learning Objectives

Annex 1 2022 Revision Overview

- Examine the necessity for updated Annex 1 guidance through the collaborative effort of organizations such as EMA, WHO, PIC/S, and the FDA
- Summarize the key updates in each chapter of Annex 1
- Discuss updated requirements for pre-use post sterilization integrity testing (PUPSIT)
- Emphasize the role of quality risk management (QRM) and a contamination control strategy (CCS) throughout the framework of sterile drug manufacturing
- Understand the key steps to Annex 1 implementation and compliance

Inspection Readiness

- Discuss the reasons for inspections
- Explain the potential outcomes from an inspection
- Discuss the mindset that leads to ensuring successful inspections
- Explain the appropriate behaviors to utilize during an inspection

New Employee Orientation

- Company and Site Overview (specific)
- Company History
- Mission and Values
- Safety Procedures
- Site Security / IT
- Emergency Procedures

Overview of cGDocP and Data Integrity

- Define GDocP and the importance of compliance
- Discuss and distinguish types of documents found in a GMP environment
- Identify requirements for record keeping, including entering and correcting data
- Review data integrity importance and the data lifecycle
- Define ALCOA+ principles and application to both paper and electronic records
- Discuss significant data integrity issues
- Distinguish electronic signature and records as well as and the importance of audit trails
- Review controls to minimize DI issues

The Origin and Importance of cGMP

- Define GMP and review the historical cases that led to current regulations
- Discuss the Code of Federal Regulations (CFR) and consequences of non-compliance
- Review cGMP violations and US FDA 483's / Warning Letters pertaining to GMP violations
- Discuss Quality Systems and how they align with GMP regulations / requirements
- Discuss the areas covered in CFR GMP regulations

Course

Learning Objectives

Cleaning, Disinfection, and Line Clearance

- Defining cleaning and disinfection
- Discussing the importance of cleaning and disinfection
- Explain what line clearance is and its significance

Contamination Control

- Define contamination and distinguish the different types (i.e., viable, non-viable, cross contamination)
- Discuss sources of contamination and factors of microbial growth
- Review the history of cleanrooms and classifications
- Describe the methods to minimize contamination through engineering, procedural, and behavioral controls

Developing a Cleaning Program & Cleaning Best Practices

- Review critical considerations when designing a cleaning program for a facility, room, or equipment
- Discuss the importance of having an approved, effective cleaning program combined with an environmental monitoring (EM) program
- Describe surfactants, disinfectants, and sporicidal agents and when they should be used
- Describe the proper flow of cleaning
- Discuss the importance of wiping surfaces with unidirectional strokes or other approved techniques
- Review industry standard materials used for cleaning (non-shedding wipes, wall mops, etc.)
- Discuss material transfer in relation to cleaning

General Gowning

- Review the appropriate actions to take prior to gowning into a grade level area
- Provide industry standard practices for gowning into CNC, D, C, B areas
- Discuss recommended steps for de-gowning out of various grade levels

Identifying & Troubleshooting Contamination

- Discuss the inevitability of some level of contamination if human operators are present
- Review common issues in cleaning and environmental monitoring that may contribute to cleanroom contamination
- Discuss operator errors, gowning errors, and training deficiencies
- Review critical considerations in current cleanroom procedures that could contribute to contamination
- Discuss how to review trend data to identify potential root causes to contamination
- Discuss how to develop a meaningful corrective and preventative action (CAPA) when necessary



Course

Learning Objectives

Isolator Cleaning and Disinfecting

- Discuss methodologies for cleaning and disinfecting the interiors of isolators
- Discuss current decontamination options and proper decontamination techniques
- Describe what configurations need to be set on the isolator when performing a decontamination process
- Discuss considerations when working with products sensitive to oxidation by H₂O₂

Microlearnings

- Pre-recorded 1-5 minute courses with audio covering a refresher of basic contamination control topics, including:
 - o What is contamination?
 - o Contamination Sources
 - o Modes of Contamination
 - o Cleanroom History
 - o Cleanroom Classifications
 - o Methods of Controlling Contamination
 - o Basic Environmental Monitoring
 - o Contamination Regulations and Impacts
 - o Contamination Growth
 - o Cleanroom Subclassification
 - o Controlling Contamination – Aseptic Gowning
 - o Controlling Contamination – Cleaning, Sanitization, and Sterilization
 - o Environmental Monitoring – Air Sampling
 - o Environmental Monitoring – Personnel and Surface Monitoring
 - o Re-Establishing a State of Control
 - o Contamination Control Design
 - o Environmental Monitoring – Program Design
 - o CAPA Management

Current Courses: Equipment



Course	Learning Objectives
Analytical Balances and Micropipettes	<ul style="list-style-type: none">• Review important safety considerations when handling sensitive equipment• Discuss best practices for use, calibration, and maintenance• Highlight small equipment cleaning methods that help maintain the longevity of balances and micropipettes• Demonstrate proper technique when using micropipettes to ensure accurate liquid transfer volume
Isolator Design Principles	<ul style="list-style-type: none">• Discuss isolator design to minimize contamination risk• Discuss pressure differential and what it should be between the isolator interior and the surrounding area• Design and maintenance considerations for gloves and glove ports• Review cleaning/sanitization options• Discuss ergonomic considerations• Review glove ports
Lab Equipment and Safety Overview	<ul style="list-style-type: none">• Introduces Biosafety and Chemical Safety• Reviews General Safety Requirements• Details common laboratory equipment
Maintenance and Integrity Testing of Isolators and Gloves	<ul style="list-style-type: none">• Describe an effective maintenance plan for gloves• Review common issues with gloves, glove ports, and isolators• Discuss methods that should be used for integrity testing of isolators and gloves• Discuss how to handle a glove integrity failure

Current Courses: Leadership

Course	Learning Objectives
Management in an Aseptic Environment	<ul style="list-style-type: none">• Review the restraints an aseptic environment places on effective management techniques• Define the traits of an effective manager or potential manager• Discuss the importance of sharing your vision

Current Courses: Microbiology



Course	Learning Objectives
Cellular Processes	<ul style="list-style-type: none">• Provides an overview of cell processes, including:<ul style="list-style-type: none">o Cell collectiono Cell differentiation and purificationo Cell expansion and harvestingo Cryopreservation
Environmental Monitoring (EM) Overview	<ul style="list-style-type: none">• Review room classifications and allowable concentration limits for particulates and microbial contaminants• Define regulatory expectations of an EM program• Discuss the development of a sampling plan (i.e., number of samples required based on room size and room classification) beginning with Environmental Monitoring Performance Qualifications (EMPQ)• Review considerations for selecting media, defining incubation parameters, and performing growth proficiency testing (GPT)• Discuss the importance of a robust data set in an EM program and the expectations for data trending• Review and demonstrate different methods of sampling (particulate readers, air samplers, contact/settle plates) and sampling best practices

Current Courses: Quality Systems

Course	Learning Objectives
Auditing Aseptic Areas	<ul style="list-style-type: none">• Discuss the principles around audits• Define audit types• Explain areas of interest in an aseptic audit
Change Control Management	<ul style="list-style-type: none">• Define change control and the managing of change control• Discuss the importance of controlling changes• Review the regulations regarding change control• Define the responsible personnel for change control



Course	Learning Objectives
Conducting Investigations	<ul style="list-style-type: none">• Define and examine the critical parts of an investigation with interactive exercises, including:<ul style="list-style-type: none">◦ Consistency when developing titles◦ Aspects of a detailed description◦ Documentation of immediate actions◦ Performing historical reviews• Define root cause• Provide guidance on when to implement CAPA• Review of elements that make up effective CAPA <ul style="list-style-type: none">• Items to review and pathways to explore during data collection section with interactive exercise:<ul style="list-style-type: none">◦ Writing a problem statement◦ Collecting background information◦ Defining scope◦ Asking the right questions and brainstorming during investigation
Deviation and CAPAs Overview	<ul style="list-style-type: none">• Discuss the basics of a deviation• Explain the impact of deviations on the site and the patient• Discuss the basics of CAPA and effectively writing CAPAs• Review how to conduct or improve investigations• Provide solutions on reducing deviation recurrence
Quality Risk Management	<ul style="list-style-type: none">• Define Quality Risk Management (QRM)• Discuss the lifecycle of QRM• Determine the QRM Process
Root Cause Analysis	<ul style="list-style-type: none">• Goals and principles of root cause analysis• Review common RCA tools• When to choose a specific RCA tool• Define human error and strategies to reduce it
Why We Investigate & Regulatory Requirements for Investigations	<ul style="list-style-type: none">• Review the importance of conducting thorough investigations• Discuss the different activities that investigations support• Discuss effective investigation programs• Identify the regulations governing investigations• Review consequences of performing inadequate investigations• Review examples of FDA citations (483's / Warning Letters) pertaining to lack of or inadequate investigations

Current Courses: Train the Trainer



Course	Learning Objectives
Adult Learning Styles	<ul style="list-style-type: none">• Review main learning styles - Auditory, Visual and Kinesthetic• Look at how adults learn and retain knowledge• Discuss approaches to increasing knowledge retention• How much repetition is necessary for adults?
Coaching and Mentoring Real Time	<ul style="list-style-type: none">• Discuss the difference between coaching and mentoring• Real time strategies to highlight and lock in desired behaviors• Provide immediate feedback whenever possible• Review conflict management strategies
How to Effectively Train Adults	<ul style="list-style-type: none">• Recognizing the learning styles of your team• Utilizing more than one style at a time to improve knowledge retention in the class• Respect what adult students bring to the class (prior experience)• Learning goes both ways

Current Courses: Validation

Course	Learning Objectives
Analytical Instrument Qualification	<ul style="list-style-type: none">• Overview• Regulatory requirements• Qualification Phases• 4-Q Model• Risk categorization• Wrapper protocols
Cleaning Validation (CV)	<ul style="list-style-type: none">• What is Cleaning Validation / Verification?• What does it accomplish?• Common criteria to evaluate• Types of cleaning (manual vs automated)• Determining a cleaning process• CIP / SIP overview

Course

Learning Objectives

Commissioning 101

- Overview of Commissioning principles
- URS and trace Matrix
- FAT (Factory Acceptance Test)/ SAT (Site Acceptance Test)
- Discuss the importance of documentation, data, and storage.
- Review how change control can be applied / tracked through the Commissioning process.
- Decommissioning overview

Computer System Validation – CSV / CSA

- What is CSV – Computer System Validation?
- Brief History
- Requirements per 21 CFR Part 11
- Requirements from Annex 11
- Testing Strategies
- CSA – Computer Software Assurance

Intro to Temperature Mapping

- Overview of Temperature Mapping
- Discuss the lifecycle of a validated system
- Review the execution of temperature mapping

Introduction to CQV Principles

- Overview of Commissioning, Qualification, and Validation
- Review regulations for validation
- Discuss general CQV Process

Maintaining a Validated Cleanroom

- Discuss how to establish and maintain control of a validated state
- Explain the causes and potential impacts of losing control
- Discuss how to reduce deviation and events
- Review training strategies
- Review case studies regarding validated cleanroom gowning

Process Validation

- Review current Guidance / Regulatory requirements
- Process Control and Validation
- Process Validation Stages
- Types of Process Validation
- Key points for Process Validation



Course	Learning Objectives
Qualification 101 (FUSE)	<ul style="list-style-type: none">• Overview of Qualification Principles with focus on FUSE (Facilities, Utilities, Systems, and Equipment)• Discuss IQ, OQ, PQ, and other acronyms• Utilizing Vendor Protocols• Stakeholders
Shipping Validation	<ul style="list-style-type: none">• Definition and Regulatory requirements• Good Distribution Practice review• Risks involved with shipping and distribution• Risks involved with Transportation
Validation 101 (process, cleaning, computers) – history and context	<ul style="list-style-type: none">• What is Validation?• Why is it necessary?• Typical Strategies• Document types and testing associated
Validation discrepancies – writing and resolving	<ul style="list-style-type: none">• Discrepancies / PGE's / Investigations...• Types of Discrepancies• Example Discrepancy Process• Root Cause Analysis Tools• Example of a well-written Discrepancy
Writing Protocols and final reports	<ul style="list-style-type: none">• Regulatory framework• Different protocol / report types• Review protocol / report content• Review standard protocol TOC• Writing Final Reports – basic expectations
Writing VMP / VPP	<ul style="list-style-type: none">• Purpose and Use of both• What sections are typically found in each• Writing Tips• Share examples• Writing activity



Course

Learning Objectives

Conducting EM/ PM Sampling (Viable / Non- Viable)

- Gown up to enter a cleanroom
- Overview of different types of sampling equipment and strategies
- Practice using sampling equipment typically used to collect environmental samples (viable / non-viable)
- Practice collecting personnel samples using a plating technique
- Review best practices when collecting samples

Gowning / Gloving Practice

- Practice aseptic gowning / gloving techniques following the checklist of required steps, prior to qualification testing
- Move to the cleanroom to gown / glove aseptically without critical technique failures (up to 3 times)
- Samples will be collected in an ISO 5 environment
- Successful gowning results will meet the expected microbial contamination limits

Investigations: Data Collection

- Utilize the information from initiation and immediate actions to perform data collection:
 - Write the problem statement
 - Record all background information about the process and/or product (i.e., what usually happens when the procedure is executed)
- Define the scope

Investigations: Deviation Conclusion

- Review additional actions and remaining sections of the deviation as a class.
- Write a concise summary of your entire investigation, starting with the detailed description, then a bit of background info, investigation findings, RCA, and conclusion of the entire deviation.
- Determine the final impact to the product SQuIPP and if CAPA are required

Investigations: Choosing the Correct RCA Tool & RCA

- Identify and review common RCA tools
- Use fishbone diagram to analyze the 6Ms and determine a root cause for the issue given
- Discuss finding as a class



Course	Learning Objectives
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Investigation Activity

- Brainstorm and determine questions you should be asking as an investigator in the “Investigation” section.
 - What could have caused the pressing issue?
 - Think about all the criteria you want to look at and evaluate each of them.
- Reinforce this section is the “meat” of your entire investigation. It should be the longest section of your entire deviation. All new information should be introduced in this section.

Investigations: Root Cause Analysis

- Determine the root cause by using one of the RCA tools discussed
- Use information gathered in the investigation section to categorize causes into one of the 6M categories
- Analyze all possible causes to determine the true root cause

Investigations: Title, Detailed Description, Immediate Actions & Historical Review

- Read the prompt of the investigation and individually come up with:
 - Title: object, location, and the problem
 - Detailed description: who, what, when, where how and why
 - Immediate actions/initial impact: who was notified and determine severity of the issue, etc.
- Historical review: identify any repeat occurrences and/or trends