

INTRODUCTION TO **CLEANROOM** MAINTENANCE, OPERATION, DESIGN & CONSTRUCTION

14 Hours **Zoom & Physical**
Program



HYBRID TRAINING

21 & 22 Oct 2026 (Wed & Thu)

 Remote Online Training (**Zoom**) &
 Dorsett Grand Subang Hotel,
Selangor (**Physical**)

**** Choose either Zoom OR Physical Session**

OVERVIEW:

THE IMPORTANCE OF CLEANROOM AWARENESS.

Cleanroom contamination related failures continue to cost electronics & pharmaceutical manufacturers many millions of dollars every year. The cost of damaged wafer, die, component and pharmaceutical products or assembly and pharmaceutical packaging might be only few cents or could reach thousands of dollars. When particle contamination happens in cleanroom environment, multiply the cost by ten. Airborne particle contamination can impact productions yields, product quality, reliability in the field and customer satisfaction, all of these will affect your profitability.

Current industry standards including ISO14644 all for effective Cleanroom control program that includes initial and recurrent Cleanroom awareness training for all personnel who might come into Cleanroom area, and for the maintenance of complete training records.

TARGET AUDIENCE

Managers, Engineers, Technicians, Supervisors overall any personnel handling Cleanroom sensitive items. Relevant for Semiconductor, PCB Assembly, Disk drive, Wafer Fabrication, Fiber Optics, Electronics manufacturing industries and Pharmaceutical industries (GMP).



METHODOLOGY:

Seminar consists of 2 days training workshop.

Workshop 1

- Cleanroom Fundamentals
- Cleanroom Design & Construction
- Cleanroom Materials

Workshop 2

- HVAC & Filtration systems
- Cleanroom Testing
- Utilities
- VDA 19.2 requirements

Fundamental workshop will give an insight of cleanroom purpose and requirements and why cleanroom environment is required.

This module will examine critical selection criteria for determining the most efficient and cost-effective clean room construction technique.

THE WORKSHOPS WILL HELP YOU TO :

- Understand Cleanroom impact in the electronics & pharmaceutical environment
- Determine Cleanroom controls problems
- Establish & implement techniques to measure and audit your plant and Cleanroom Control Plan
- Establish, implement and verify an Cleanroom control plan as per ISO14644 & GMP



COURSE CONTENT

Day 1 : 9.00am - 5.00pm

Cleanroom Fundamentals

MODULE 1:

- Purpose of clean protocol
- Introduction & Classification
- Types of contamination, Contamination sources & control
- Clean room environment monitoring

Cleanroom Design & Construction

MODULE 2:

- Facility design & Layout
- Air change rate & Airlocks
- Pressurization
- Temperature & Humidity control
- Gowning room
- Pass-through
- Sitting

Cleanroom Materials

MODULE 3: Materials for Construction

- Wall & Wall finishes
- Ceiling, Door & Floor

Day 2 : 9.00am - 5.00pm

HVAC & Filtration systems

MODULE 4:

- Airside & Filtration
- Filter Locations

Cleanroom Testing

MODULE 5:

- Testing procedures and standards

Utilities

MODULE 6:

- Essential utilities for cleanroom operations

VDA 19.2 requirements

MODULE 7:

- Overview of VDA 19.2 standards and compliance