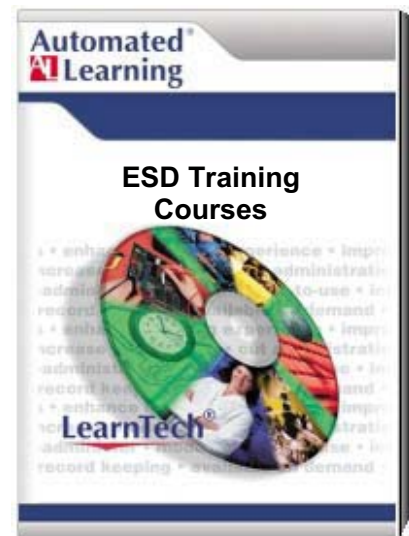# ESD Training Courses

ESD and Training

Electrostatic discharge related failures continue to cost electronics manufacturers many millions of dollars every year. The cost of a damaged wafer, die, component, or assembly might be only a few cents or could reach thousands of dollars. When failure happens in the field, multiply the costs by ten. ESD can impact production yields, product quality, reliability in the field, and customer satisfaction, and all of these affect your profitability.

Current industry standards including ANSI/ESDA S20.20 call for an effective ESD control program that includes initial and recurrent ESD awareness training for all personnel who might come into contact with ESD sensitive items, and for the maintenance of complete training records.

Everfeed Technology PTE Ltd is proud to partner with Automated Learning Corporation® to bring you a unique ESD training solution featuring the LearnTech® training system.

If you are viewing this document onscreen, the blue text items are clickable links.

Available Course Titles

Basic:

ESD: An Introduction
ESD Control for Operators
ESD: Field Service

Advanced:

ESD: See It! Believe It! Control It!
ESD Control Program Management
ESD: Class 0

Custom Tailor Your ESD Training:

ESDA Principles of ESD Control   click on a title for more information

Complete Training System

LearnTech® ESD training products deliver a complete training system that includes:

- State-of-the-art training content developed with ESD experts by learning professionals
- A choice of delivery formats and options to meet your training needs
- Available computer-automated course management and record keeping
- LearnTech® Training Instructor/Supervisor Guides
- Comprehensive certification testing to assure students have understood the content
- LearnTech® Training course Evaluation surveys
- LearnTech® ESD Practical Skills Checklist for Workplace Qualification – tailorable.
- Support and documentation at the LearnTech® On-Line Customer Support Center
- Technical Support via email and telephone

Testing and Certification

LearnTech® certification training incorporates interactive learning checks throughout the instructional sequences. Certification tests are criterion-referenced and module-based with feedback on every response for enhanced learning. Administrative access to dates and scores of tests, certifications, and re-certifications is compliant with S20.20 and ISO quality standards training requirements.

The LearnTech® system allows your ESD Experts to train, test, audit, verify and certify that students have understood, and can apply the training content.

Standards Compliant

LearnTech® ESD training course content complies with the ANSI/ESD S20.20 ESD control program guidelines as well as to JEDEC JESD625, and IEC 61340-5 standards.

Available Course Formats

Course formats include LAN and Web computer-delivery with some titles also available in DVD Video.

Computer Delivery Options

Courses can be delivered over your network to any computer in your facility using either LAN or Web formats. We offer automated registration, and complete training records can be securely maintained on your server.

Benefits include:

- Automated registration, tracking, testing, certification – reduced administrative time
- Flexible online access -"always available" 24x7 across shifts, departments, locations
- Latest video and interactive multimedia technology – for interest, involvement and fun
- Self-paced delivery – that improves the efficiency and effectiveness of learning
- Individual on-demand training – no waiting for a class to be scheduled
- Reduced language barriers for students – with text + audio + visual + review
- Shorter student away-from-work training time – lowers training costs significantly
- Reduced demand on your expert resources to deliver instruction on "the basics"
- Compliance with ISO and industry standards for training and qualification records
- Standardized training - consistent, accurate, reliable content every time
- Convenient easy to use training - point and click to learn, it's that simple
- High quality graphics, video and audio media - optimized for the delivery format
- All courses available under a single license – mix and match flexibility
- Customized content and corporate branding "look-and-feel" options are available

Corporate LAN–Based

LAN delivery is a scaleable computer-delivered solution that is appropriate for both small and large organizations. Whether you have 10 or 10,000 learners, the LearnTech® LAN system is your best buy. LAN delivery is ideal for organizations that do not have a corporate Learning management System (LMS) and includes integrated course management.

- Courseware installed on your server, securely inside your firewall
- LearnTech® Automated Curriculum Manager (ACM) included at no additional cost
- ACM manages registration, course delivery and record keeping
- Small client application automatically installs on each student workstation

We ship the courses on disk with all necessary files for installation on your server. The "server" can be any Window's based computer or an existing Windows server on your LAN.

Corporate Web-Based Intranet

Many organizations today use a corporate LMS to manage registration, computer-course delivery and record keeping. LearnTech® Web-based Intranet delivery is a standards-compliant solution that works with your LMS to Deliver courses over your Intranet.

- Courseware installed on your server, securely inside your firewall
- Standard Web browser interface with Flash plugin on each student workstation
- Windows or Unix variants supported on student workstations
- Compatible with LMS industry standards (SCORM or AICC)
- Your LMS manages registration, course delivery and records keeping
- An engineering charge applies for LMS course integration

Corporate Hosted Web-Based Internet

Web format courses are also available as a hosted solution with no requirement to install software on your server. Courses are hosted using a LearnTech® server and LMS and are delivered over the Internet. Students need only receive a user ID and password, so this solution can be "up-and-running" in a very short time.

- No requirement to install software on your server
- Standard Web browser interface with Flash plugin on each student workstation
- Can be accessed from any broadband Internet connected computer, even from home
- Windows or Unix variants supported on student workstations
- Hosted registration and records with available direct access for your administrator

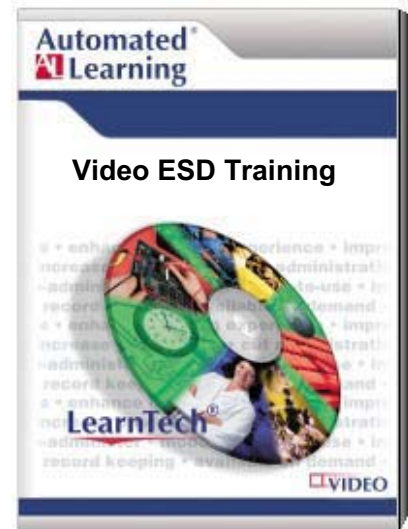## Individual On-line Web-training

Web-training courses can also be purchased on-line for individual or small volume use. Both individuals and companies make use of this option when there is a limited requirement for training. Individuals receive user ID and password and hosted course access is via the Internet.

DVD Video ESD Training

Video training delivery is a convenient solution appropriate for organizations that utilize instructor-led classroom delivery. LearnTech® ESD training videos are designed to support planning and delivery of classroom courses, and are also useful for individual training.

- Ideal for instructor-led group presentation
- Convenient as individual learning resources
- Easy to use and designed for audience participation
- Organized by chapters with discussion questions

These video ESD training courses are perfect for group presentation. Your Instructor can choose to select appropriate material by chapter and pause playback as on-screen questions are asked. This provides an opportunity for group participation and discussion, before the correct answers are revealed.

Video ESD Training

Each ESD training video is a complete training system that allows your instructors to train, test, verify, and certify that students have understood the content. Meets the training requirements of ANSI/ESD S20.20.

Purchase

For more information:
Please contact us at +65-68631488 or via email at info@everfeed.com.sg

For secure automated on-line purchase click on the "Buy now" links:

Available Video Titles

ESD: An Introduction	Buy now online	Demo
ESD Control for Operators - Manufacturing Controls	Buy now online	Demo
ESD Control for Operators - Personal Grounding	Buy now online	Demo

Take advantage of the bundled set of three. Over 70 minutes of ESD video training plus Instructor Bonus materials - and you **save 30%!**

ESD Training for Operators - Bundle of 3 courses	Buy now online

ESD: Field Service	Buy now online	Demo
ESD: See It! Believe It! Control It!	Buy now online	Demo

Bundled set of all five, Over 140 min. plus Instructor Bonus materials - you **save 30%!**

ESD All DVD Courses – Bundle of 5 courses	Buy now online

Each ESD video includes a bonus Instructor Resource disk with:

- LearnTech® Video Training Instructor Guide
- LearnTech® Video Training Course Evaluation Survey
- LearnTech® Quiz Modifiable student format
- LearnTech® Quiz Instructor Answer and Scoring Key
- Practical Skills Checklist - ESD Control for Operators

Video delivery notes:

- Best suited to instructor-led presentation with interactive group participation
- Can be augmented with demonstrations and examples from the workplace
- Requires only a DVD player and television for presentation
- Does not Require LAN or Internet connection
- Less interactive for individual delivery as compared to computer-formats
- Does not include computer-automated registration, scheduling and record keeping
- Certification testing is via paper-and-pencil and requires manual scoring and records

ESD Course Descriptions - Basic

ESD: An Introduction

Course code: ESDA
Delivery: LAN, Web, Video
Length: 1.5 hours

A comprehensive interactive multimedia learning program with certification for those who work with static sensitive devices. This course introduces the trainee to electrostatic discharge and is directed to assemblers and support personnel.

Course Content

- How static electricity is generated from common actions
- Two different types of damage caused by ESD
- Problems and cost implications of ESD
- Conditions most likely to cause uncontrolled ESD
- Behavior of insulative, conductive, and dissipative materials
- Causes and effects of polarization and induction
- Function of ionization and humidity in ESD control
- Function of grounding in ESD control

Modules

1. Introduction
2. What is ESD?

Purchase

For Corporate LAN or Web options, or for more information:
Please contact us at +65-68631488 or via email at info@everfeed.com.sg

For secure automated on-line purchase of this ESD training course:

ESD: An Introduction - individual web-training format:	Buy now online
ESD: An Introduction - video-course format:	Buy now online

ESD Control for Operators

Course code: ESDB
Delivery: LAN, Web, Video (2 DVDs)
Length: 1.5 hours

A comprehensive interactive multimedia learning program with certification for those who work with static sensitive devices. The training is directed to assemblers and support personnel.

Course Content

- Conditions most likely to cause uncontrolled electrostatic discharge
- Three types of ESD protective packaging
- The use of ionization and topical antistats for static control
- The impact of environmental factors on static charge
- Function of ESD protective items in a protected area
- Requirements of an ESD protective workstation
- The correct use of ESD protective smocks, wrist straps, and footwear
- Use of personal protection around high voltage hazards
- Recommended ESD protective practices at workstations

Modules

1. ESD Controls
2. Personal Grounding

Purchase

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Please contact us at +65-68631488 or via email at info@everfeed.com.sg

For secure automated on-line purchase of this ESD training course:

ESD Control For Operators - individual web-training format: Buy now online
ESD Control For Operators - Manufacturing controls - video format: Buy now online
ESD Control For Operators – Personal Grounding - video format: Buy now online

ESD: Field Service

Course code: EF
Delivery: LAN, Web, Video
Length: 1.5 hours

This course is intended for all field service technicians, service managers, and repair personnel who handle ESD sensitive boards and devices outside of facilities that have permanent ESD protective areas and systems.

Course Content

- Characteristics of field service environments and ESD failures
- Understanding ESD definition, threats, and prevention
- "Controlled grounding" as the preferred way to remove static electricity
- Function and use of Items that should be in an ESD field service kit
- The use of personal grounding devices in field service applications
- Safe storage, transportation, and handling of circuit boards
- Procedures for setting up a temporary ESDPA in the field
- Appropriate grounding in a field service environment
- Procedures for working inside the ESDPA in the field
- Re-packaging of assemblies that have been removed during field service
- Callbacks in field service and communication with the customer

Modules

1. Introduction
2. The ESD Field Kit
3. Setting up a Temporary ESDPS
4. Working Inside a Temporary ESDPA

Purchase

For Corporate LAN or Web options, or for more information:
Please contact us at +65-68631488 or via email at info@everfeed.com.sg

For secure automated on-line purchase of this ESD training course:

ESD: Field Service - individual web-training format: Buy now online
ESD: Field Service - video format: Buy now online

ESD Course Descriptions - Advanced

ESD: See It! Believe It! Control It!

Course code: ESD2
Delivery: LAN, Web, Video
Length: 2 hours

A comprehensive interactive multimedia learning program with certification for those who work with static sensitive devices. This course is directed toward engineers and technicians.

Course Content

- What static electricity is, and how it is produced
- How uncontrolled discharge can damage components and equipment
- The Human Body Model (HBM) of ESD damage
- Procedures for controlling Human Body model ESD
- The Charged Device Model (CDM) of ESD damage
- Procedures for controlling Charged Device Model ESD
- Safe and unsafe practices in handling assemblies

Modules

1. Introduction
2. ESD: Human Body Model
3. HBM Control Procedures
4. ESD: Charged Device model
5. CDM Control Procedures

Purchase

For Corporate LAN or Web options, or for more information:
Please contact us at +65-68631488 or via email at info@everfeed.com.sg

For secure automated on-line purchase of this ESD training course:

ESD: See It! Believe It! Control It! - individual web-training format: Buy now online
ESD: See It! Believe It! Control It! - video format DVD: Buy now online
ESD: See It! Believe It! Control It! - video format .wmv: Buy now online

ESD Control Program Management

Course code: ESM
Delivery: LAN, Web
Length: 2 hours

Intended for managers, supervisors, and ESD Coordinators

Course Content

- The importance of the ESD control program
- Seven key responsibilities of management
- Responsibilities of the ESD Site Coordinator and supervisors in ensuring appropriate ESD practices within the facility
- Overview of the key elements in an ESD control program
- Personal grounding, environmental controls, and appropriate practices
- Processes used to verify compliance with the ESD Control Program Plan, including the audit process and records of compliance or deviation
- Necessary steps to maintain a high level of ESD awareness and compliance

Modules

1. ESD Program Roles and Responsibilities
2. ESD Control Program Plan
3. ESD Audit Plan
4. ESD: Maintaining the Culture

Purchase

For Corporate LAN or Web options, or for more information:
Please contact us at +65-68631488 or via email at info@everfeed.com.sg

For secure automated on-line purchase of this ESD training course:

ESD Control Program Management - individual web-training format: Buy now online

ESD: Class Zero

Course code: ECZ
Delivery: LAN, Web
Length: 2 hours

For process engineers, quality personnel, technologists, managers, and senior operators responsible for the development, management, and monitoring of Class Zero ESD control programs

Course Content

- Industry trends driving increased use of highly sensitive ESD class 0 components
- The leading cause of ESD failures in the electronics industry today
- Critical factors in a total control system approach for ESD class Zero
- The shift in thinking required about control methods for ESD class 0
- The limitations of conventional ESD control methods, with examples
- Examples of mitigation techniques to control ESD class zero risks
- The key issue of Charged Device Model ESD failure for class 0
- The critical change in ESD control design for class zero
- Additional requirements of ESD control in a cleanroom environment
- The impact of class 0 requirements on ESD audit metrics
- ESD metrics as management tools
- Control program audit levels required for ESD class 0 readiness
- A ten step process in manufacturing to become class zero ready
- The time and effort required to develop a robust ESD class 0 system

Modules

1. Industry Trends
2. Class 0 Hazards
3. ESD Control Program Assessment
4. Class 0 and ESD control programs

Purchase

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Please contact us at +65-68631488 or via email at info@everfeed.com.sg

For secure automated on-line purchase of this ESD training course:

ESD: Class Zero - individual web-training format: Buy now online
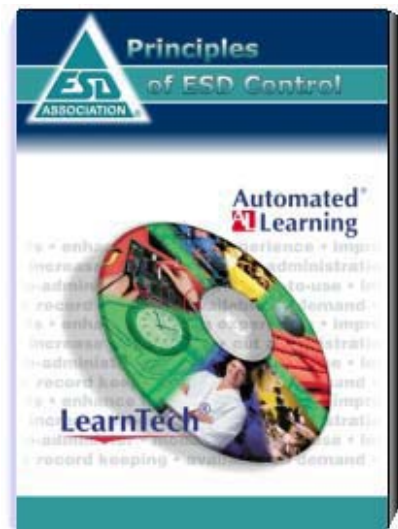
Custom Tailor Your ESD Training

ESDA Principles of ESD Control

Course code: ESO
Delivery: LAN
Length: 2 hours

An excellent introductory-level ESD training program with certification developed in partnership with the ESD Association (ESDA). The course explains step-by-step the importance of controlling static in your workplace, how static occurs, and how to protect against discharge that can damage static-sensitive electronic components and assemblies. The course is ESDA approved and content can be custom-tailored to meet the specific requirements of your ESD S20.20 tailored control program.

This comprehensive ESD course can benefit any front line personnel who must deal with ESD sensitive parts in the workplace, including operators, assemblers, and material handlers, as well as technicians, engineers, supervisors, and managers.

Custom Tailor Your ESD Training

Industry standards including ANSI/ESDA S20.20 call for an effective ESD control program that includes initial and recurrent ESD awareness training for all personnel who might come into contact with ESD sensitive items, and for the maintenance of complete training records. S20.20 also allows for the tailoring of your ESD control program to meet specific application needs.

ESDA Principles of ESD Control is a LAN computer-delivered program that not only meets standards requirements for ESD training and training records, but also provides the capability for you to custom tailor ESD training content to match your S20.20 tailored ESD control program. Using a simple interface and a series of questions, your ESD experts are able to select appropriate content for your company location, consistent with your procedures and training plan, and the course will deliver just that content, and the matching testing material.

ESDA Principles of ESD Control

Course Content

- How static electricity is generated from common actions
- Two different types of damage caused by ESD
- Conditions most likely to cause uncontrolled electrostatic discharge
- Problems and cost implications of ESD damage
- Common objects that present an ESD hazard
- Types of ESD protective packaging
- Use of ionization and topical antistats for static control
- The impact of environmental factors on static charge
- Function of ESD protective items in a protected area
- Requirements of an ESD protective workstation
- Correct use of ESD protective smocks, wrist straps, and footwear
- When not to use personal protective devices
- Recommended ESD protective practices at workstations

Modules

1. Introduction
2. Basic Science of ESD
3. ESD Protected Areas
4. Working Inside an EPA

Purchase

For Corporate LAN option, or for more information:
Please contact us at +65-68631488 or via email at info@everfeed.com.sg

ESD LAN Format Demo

Testimonials

What Users say about LearnTech® ESD Training

Curtiss-Wright Controls

"This method of training requires little preparative work on my part and can be delivered on demand, avoiding scheduling conflicts… training is always consistent. My classroom and record keeping time is substantially reduced, allowing me to concentrate on surveillance, problem solving and development of other training... This product [has] made my job as a trainer and training coordinator much more rewarding."

Intermec Technologies

"I ordered… 'ESD Prevention for Operators'. It's impact was, to say the least Amazing….As you know I have purchased the whole suite… My goal has been to utilize these resources as 'Just in time and Just enough' education in a manufacturing environment. Your Company has made me look like a 'hero' …LearnTech has become a vital part of my training…"

Alcatel-Lucent

"It is the most complete and correct, at least in agreeing with Lucent's ESD program, that we have seen. The Education subcommittee has, therefore, recommended it to all of the ESD Leadership Team members who represent all Lucent Technologies locations."

"Thank You for helping me provide our installers with such important and thorough information on ESD. Our company and our customers are the beneficiaries of the informative courses you provide."

Raven Industries

"Thanks for being so helpful yesterday. I really enjoy working with you. We are using your ESD course to fulfill our requirement for ESD training. This has worked wonderfully for new hires...They are able to sit down and take the course on their first day of employment... …thank you for the Class 0 information…we have product in our pipeline that uses Class 0 components. Thanks to you I was able to provide information and education on this topic.

Raytheon

"With the recent purchase of the 'ESD Prevention for Operators', I have increased the availability I have needed for training people with various schedules, and decreased the amount of time it takes to train them. This has saved my company time, money, and most importantly, … individuals that have received the training are educated and up-to-date."

Sigmapoint Technologies

"Automated Learning is the heart of SigmaPoint's training program. The easy to use computerized format allows for both individual training and blended learning sessions. The computerized records make record retention a breeze."