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.

The ESD Association is proud to partner with Automated Learning Corporation® to bring you a unique ESD training solution featuring the LearnTech® eLearning system.

Available Course Titles

Basic: Advanced: click on a title for more info
ESD: An Introduction ESD: See It! Believe It! Control It!
ESD Control for Operators ESD Control Program Management
ESD: Field Service ESD for R&D and Test
ESD: Field Service ESD: Class 0

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 SCORM format to integrate with a Learning Management System (LMS)
- LearnTech® Training Instructor/Supervisor Guide
- 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

Pricing, Quantity Discounts and Order Form for On-line Web-Delivered Courses
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

Courses are available in computer on-line web delivery format, with some titles available for DVD Video delivery.

Web-Based Delivery Option

On-line web courses can be delivered securely over your network to any computer in your facility, and can also be delivered to any computer in any location with a high-speed Internet connection. Trainees have the use of the course for one full year from registration. 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 – 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
- High quality graphics, video and audio media - optimized for the delivery format
- Shorter student away-from-work training time – lowers training cost significantly
- Reduced demand on your expert resources to deliver instruction on "the basics"
- Standardized training - consistent, accurate, reliable content every time
- Convenient easy to use training - point and click to learn, it's that simple
- All courses available under a single license – mix and match flexibility
- Compliance with ISO and industry standards for training and qualification records
- Customized content and organization branding “look-and-feel” options are available
- Volume discounts apply; Mix and match titles for best pricing.

Pricing, Quantity Discounts and Order Form for On-line Web-Delivered Courses
**Hosted Web-Based Internet**

Online Web format courses are available as a hosted solution with no requirement to install software on your server. Courses are externally hosted on our LMS, and are delivered over the Internet. Students need only receive a user ID and password.

- 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
- Web training courses can be purchased for individual or volume use

**Web-Based Corporate LMS**

Many organizations today use a Learning Management System (LMS) to manage registration, computer-course delivery, and record keeping. LearnTech® Web-based delivery is a standards-compliant solution that works with your LMS to deliver courses over your organization’s network.

- Standard web browser interface with Flash plugin on each student workstation
- Windows or Unix variants supported on student workstations
- Courses conform to LMS industry standards (SCORM)
- Your LMS manages registration, course delivery and records keeping
- An engineering charge applies for LMS course integration
- We can customized courses to meet your specific needs for a small per-page fee

**DVD Video ESD Training Option**

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.
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.

Available Video Titles

ESD: An Introduction
ESD Control for Operators - Manufacturing Controls
ESD Control for Operators - Personal Grounding

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

ESD: Field Service
ESD: See It! Believe It! Control It!

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

ESD All DVD Courses – Bundle of 5 courses

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

Pricing, Bundle Discounts and Order Form for DVD Video-Delivered Courses
ESD Course Descriptions - Basic

ESD: An Introduction

Delivery:  On-line web, Video
Length:  1.5 hours

This course is intended for all personnel who work with or in proximity to static sensitive devices. The course introduces the trainee to electrostatic discharge concepts and includes certification testing.

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  Click on the links below.

Pricing, Quantity Discounts and Order Form for On-line Web-Delivered Courses

Pricing, Bundle Discounts and Order Form for DVD Video-Delivered Courses
ESD Control for Operators

Delivery:  On-line web, Video (2 DVDs)
Length:  1.5 hours

This course is intended for all assemblers and support personnel who work with static sensitive devices within a ESD protective area. The course focus is on control procedures. The course includes certification testing.

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  Click on the links below.

Pricing, Quantity Discounts and Order Form for On-line Web-Delivered Courses
Pricing, Bundle Discounts and Order Form for DVD Video-Delivered Courses
ESD: Field Service

Delivery: On-line 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. The course includes certification testing.

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 ESDPA
4. Working Inside a Temporary ESDPA

Purchase  Click on the links below.

Pricing, Quantity Discounts and Order Form for On-line Web-Delivered Courses

Pricing, Bundle Discounts and Order Form for DVD Video-Delivered Courses
ESD Course Descriptions - Advanced

ESD: See It! Believe It! Control It!

Delivery: On-line web, Video
Length: 2 hours

This course is intended for engineers and technicians who work with ESD sensitive boards and devices, who supervise workers, or who select materials and design procedures. The focus is on understanding the risks, the role of protective devices and procedures, and misconceptions regarding ESD control. The course includes certification testing.

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      Click on the links below.

Pricing, Quantity Discounts and Order Form for On-line Web-Delivered Courses

Pricing, Bundle Discounts and Order Form for DVD Video-Delivered Courses
ESD Control Program Management

Delivery: On-line web
Length: 2 hours

This course is intended for managers, supervisors, and ESD coordinators who supervise workers, or who manage elements of the ESD control program. The course includes certification testing.

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  Click on the link below.

Pricing, Quantity Discounts and Order Form for On-line Web-Delivered Courses
ESD for R&D and Test

Delivery: On-line web
Length: 2 hours

This course is intended for engineers and technicians who regularly work with ESD sensitive boards and devices within an ESD protective area for lab or test purposes. In addition to a focus on understanding the risks and misconceptions regarding ESD control, the proper use of protective devices and procedures is emphasized. The course includes certification testing.

** Note: This course is very similar in design and mirrors much of the content of “ESD. See It! Believe It! Control It!” It is recommended to take one or the other, but not both. **

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 wrist strap as a critical component in HBM ESD Control
- How when and where a wrist strap should be tested
- 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  Click on the link below.

Pricing, Quantity Discounts and Order Form for On-line Web-Delivered Courses
ESD: Class Zero

Delivery: On-line web
Length: 2 hours

This course is intended for process engineers, quality personnel, technologists, managers, and senior operators responsible for the development, management, and monitoring of Class Zero ESD control programs. The course includes certification testing.

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 Click on the link below.

Pricing, Quantity Discounts and Order Form for On-line Web-Delivered Courses
Testimonials

What Users say about LearnTech® ESD Training

“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.”

“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...”

“It is the most complete and correct, at least in agreeing with our company’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 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.”

“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.

“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.”

“Automated Learning is the heart of our 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.”
Pricing and Ordering

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.

The ESD Association is proud to partner with Automated Learning Corporation® to bring you a unique ESD training solution featuring the LearnTech® eLearning system.

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 for R&D and Test
- ESD: Class 0

** Note: “ESD for R&D and Test” is very similar in design and mirrors much of the content of “ESD. See It! Believe It! Control It!” It is recommended to take one or the other, but not both. **

Students have access to their courses for one year from the date of registration.

On-line Web-Delivered Course Pricing:

<table>
<thead>
<tr>
<th>Mix and Match across all ESD Titles</th>
<th>Unit Cost</th>
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<tr>
<td>Registrations</td>
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Payment Information

Payment is required at time of order. Only checks drawn in U.S. currency on a U.S. bank that is a member of the Federal Reserve will be accepted; make checks payable to: ESD Association. Contact ESDA for Purchase Order instructions. Visa®, Mastercard®, Discover® and American Express® are accepted.

**Order Form is on the next page.**
## Learntech® ESD Training Courses

### On-line Web-Delivered Course Order Form:

<table>
<thead>
<tr>
<th>Web Course</th>
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<td><strong>Advanced:</strong></td>
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<th>Total Price</th>
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**Quantity of Course Registrations and Price**

**Use the pricing chart on the previous page to determine the “unit cost” for the number of registrations that you require.**

First Name: ___________________ Last Name: ___________________
Company Name: _______________________________________________
Street: ___________________ City: ____________________________
State/Province: __________ Country: __________ Zip/Postal Code: __________
Phone: __________ Fax: __________ Email: __________

☐ Check ☐ Credit Card: Visa® Mastercard® Discover® American Express®
Credit card number: ___________________ Expiration date: __________
Name on card: ___________________ Security code: __________
Cardholder’s signature: __________
Billing address: _______________________________________________________________________

**email, fax, or mail this form with payment to:**
ESD Association • 7900 Turin Rd Bld 3 • Rome NY 13440
Phone 315-339-6937 • Fax 315-339-6793 • info@esda.org • www.esda.org
Learntech® ESD Training Courses

DVD Video-Delivered Course Order Form:

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<td>ESD: Field Service</td>
<td>$399x</td>
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First Name: ____________________ Last Name: ____________________

Company Name: ________________________________________________

Street: ____________________ City: ____________________

State/Provi: ____________ Country: ________ Zip/Postal Code: ____________

Phone: ____________ Fax: ____________ Email: ____________

☐ Check □ Credit Card: Visa® Mastercard® Discover® American Express®

Credit card number: ____________________ Expiration date: ____________

Name on card: ____________________ Security code: ____________________

Cardholder’s signature: ____________________

Billing address: ________________________________________________

*email, fax, or mail this form with payment to:
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Phone 315-339-6937 • Fax 315-339-6793 • info@esda.org • www.esda.org*