

ESSENTIALS FOR ESD PROGRAMS AND INARTE CERTIFICATION EXAM

ESSENTIALS FOR ESD PROGRAMS

FACTORY: TECHNOLOGIES • CONTROLS • PROCEDURES

Instructor: John Kinnear, IBM

This two-day seminar consists of concentrated versions of the ten ESDA tutorials which comprise the ESDA Program Manager (PrM) Certification Program:

- ESD Basics for the Program Manager
- Ionization and Answers for the Program Manager
- Packaging Principles for the Program Manager
- System Level ESD/EMI: Testing to IEC and Other Standards
- Cleanroom Considerations for the Program Manager
- How To's of In-Plant ESD Survey and Evaluation Measurements
- Device Technology and Failure Analysis Overview
- Electrostatic Calculations for the Program Manager and the ESD Engineer
- ESD Standards Overview for the Program Manager
- ESD Program Development & Assessment (ANSI/ESD S20.20 Seminar)

Key concepts and information from the above courses have been selected for this two-day seminar. Many of the demonstrations and videos from ESD Basics Tutorial are included in this seminar. Examples of electrostatics and ESD calculations are included where appropriate throughout the seminar.

*This Seminar offers a broad exposure to the essentials of ESD programs. It offers a two-day comprehensive set of factory technologies and procedures designed for managers, technicians, and specialists desiring ESD control program training and information. This course serves as a refresher class to those taking the PrM Certification exam. In addition, the course can be used as preparation for those interested in taking the iNARTE Engineering or Technician Certification exam, which will be offered on the day following this two-day course.

SHENZHEN, CHINA JANUARY 24-26, 2011

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ESSENTIALS FOR ESD PROGRAMS AND INARTE CERTIFICATION EXAM

ESSENTIALS FOR ESD PROGRAMS FACTORY: TECHNOLOGIES • CONTROLS • PROCEDURES

JANUARY 24-25, 2011

DAY 1

PART I (8:00 AM-Noon)

This section reviews the fundamentals of electrostatics, charge flow, electric field and voltage. The concept of capacitance and the fundamental relationship, $Q = CV$, is introduced and explored with demonstrations and videos. The practical application of these concepts to the measurement of resistance, fields and voltages, and the relevant standards are reviewed and demonstrated.

PART II (1:00 PM-5:00)

The principles from Part I are then applied to grounding principles and standards, measurement of charge, standard models for ESD (i.e., human-body model and charged device model), and static induction with demonstrations and videos. Very simple and basic ESD protection circuit concepts and relevant failure analysis techniques are introduced and reviewed.

DAY 2

PART III (8:00 AM-Noon)

Key ESD technical areas are reviewed such as air ionization, ESD-safe packaging, cleanroom principles and electrostatic attraction. Standards relevant to these areas are described.

PART IV (1:00 PM-5:00)

The final section includes charge generation test methods, additional ESDA standards, system-level ESD standards and testing, practical auditing techniques and strategies, and ESD event detection. The tutorial concludes with a review of ESD Protected-Areas (EPAs), ESD Program Management and the application of ANSI/ESD S20.20.

INSTRUCTOR

John Kinnear

John Kinnear is an IBM Senior Engineer specializing in process & system technology, and facility certification in accordance with ANSI/ESD S20.20. He has a BS degree from University of Buffalo and a MS degree from Syracuse University. John is well known globally for his technical contributions to national and international standards. He has been the IBM ESD Site Coordinator for the Poughkeepsie site since 1989. He is the past chairman of the IBM Inter-divisional Technical Liaison Committee for ESD Protection and is an important member of his company's committee to develop and implement the ESD Corporate program for IBM. John has coordinated the testing for large mainframes for compliance to EMC, Safety, Environmental, Shipping and Volatile Organic Emission standards. He has also been the lead engineer on testing large mainframe systems to EMC emissions and immunity standards for FCC, CE Mark, VCCI and other national requirements.

As a member of the ESD Association since 1990, John has served in several Standards Development Committees as well as association management positions. John is the appointed Technical Adviser to the United States National Committee/IEC Technical Committee 101, where he represents the United States to the International Electrotechnical Commission (IEC). In this position he assisted in the evolution of international ESD standards and supports international adoption of ANSI/ESD S20.20.

As Chair of the ESDA's Facility Certification (ANSI/ESD S20.20) development program, John played major roles in the program's development and industry launch. In particular, John coordinated the initial development of Lead Assessor training, ISO Registrar Certification and witness audits.

John has served in every ESD Association officer's position, including Vice President, Senior Vice President and President. He is the past Chairman of the EOS/ESD Symposium Technical Program Committee and past General Chairman of the 2004 EOS/ESD Symposium. For his contributions to the ESD Association John was presented with the Outstanding Contribution Award in September, 2006, from the ESD Association.



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ESSENTIALS FOR ESD PROGRAMS AND INARTE CERTIFICATION EXAM

INARTE CERTIFICATION EXAM JANUARY 26, 2011 • 8:00 A.M. - 5:00 P.M.

iNARTE offers Certification to both ESD Engineers and Technicians. This is an internationally recognized, independent validation of professional excellence, according to the guidelines of ISO 17024. There are no required tutorials or courses to be completed prior to attempting the iNARTE Certification exam. Applicants must complete an application form and include the iNARTE application/exam fee with their registration. Application forms will be available at each course location and may also be downloaded in advance at the iNARTE web site <http://www.narte.org/d/esdapp.pdf>. All information on the requirements for iNARTE Certification may be found at <http://www.narte.org/h/esd.asp>. You may also contact iNARTE by email at Lawrence@inarte.us.

The iNARTE ESD Certification exams are open book. Computers and Calculators are allowed. We do not guarantee to provide power or internet connection, but if available at the examination room, candidates may connect. Applicants should note the following:

Bring these items with you:

- Standards
- Tutorial notes
- Reference books
- Calculator
- Computer

Not allowed:

- Talking on cell phones
- Talking or sharing of reference materials
- Using an email or internet connection to confer with another person

Engineer or Technician? Engineers know the math and the physics of ESDC. Technicians know the instruments and test setups. Engineers need good writing and verbal skills. Technicians need to know the pitfalls of real measurements.

REQUIREMENTS FOR CERTIFICATION AS AN ESDC ENGINEER

9 years of engineering experience*, or equivalent based on a combination of education and ESDC work experience, which demonstrated competence in ESDC engineering.

Satisfactory performance on a written exam in ESDC engineering fundamentals as administered by iNARTE.

Equivalencies granted for study at schools approved by iNARTE are based on the schedule below. Engineering teaching experience may qualify the applicant for up to two years of experience equivalency.

Education	Curriculum	Equivalency
1-4 years undergraduate study without degree	Engineering	1 year of each year of study; maximum of 4 years
BS	Engineering of physical science	4 years
BSET	Engineering technology	2 years
BS/BA	Other than above	2 years
Postgraduate study	Engineering or physical science	Up to one year

REQUIREMENTS FOR CERTIFICATION AS AN ESDC TECHNICIAN

6 years of technician experience*, or equivalent based on a combination of education and ESDC work experience, which demonstrated competence as an ESDC technician.

Satisfactory performance on a written exam in ESD technology as administered by iNARTE.

Two years of experience may be granted for graduation from an iNARTE-approved school in a curriculum that includes an electronics technology or applied electronics course. The teaching of electronics or engineering technology may qualify the applicant for up to two years of experience equivalency.



ESSENTIALS FOR ESD PROGRAMS AND iNARTE CERTIFICATION EXAM

First Name: _____ Last Name: _____

Company Name: _____

Street: _____

City: _____ State/Province: _____ Country _____ Zip/Postal Code: _____

Is Address (please circle the one that applies) Home or Company

Phone: _____ Fax: _____ Email: _____

January 24-25, 2011

Essentials for ESD Programs

January 26, 2011

iNARTE Engineer Exam

iNARTE Technician Exam

January 24-26, 2011

Both Seminar and Exam

FEES

On or before Jan 3, 2011

After Jan 3, 2011

Essentials for ESD Programs Seminar	4500 RMB • \$679.35 USD	5000 RMB • \$754.83 USD
iNARTE Application and Exam	2500 RMB • \$377.42 USD	3000 RMB • \$452.90 USD
Both Seminar and Exam	6000 RMB • \$905.80 USD	6500 RMB • \$981.20 USD

Note: There will be 6% tax for RMB invoice .

6360 RMB if RMB invoice required

6890 RMB if RMB invoice required

Registration Information

For credit card payments:

Register online at:

ESD Association

<http://esda.org/onlineregistrations.html>

Phone: 315-339-6937

For all other forms of payment:

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