

Electrostatic Discharge (ESD) Basics

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The THORS *Electrostatic Discharge (ESD) Basics* course provides an introduction to the laws that govern electric charges, electrostatic forces between objects, and the relationship between static charge and ESD. The course also delves into the various types of ESD events and models, their relationship, along with ESD control measures and the types of ESD certifications.

Credit Hours **1.5**

Learning Objectives

- Define the laws of electric charge.
- Explain the interactions of charges due to electrostatic force.
- Recognize the relationship between static charge and ESD.
- Analyze the ESD events and their relationship to ESD models.
- Identify the sources and effects of ESD.
- Understand the measures for controlling ESD.
- Recall each ESD certification.

Table of Contents

I. ESD Concepts

- **Electric Charge**
 - Law of Conservation of Charge
 - Quantization of Charge
 - Coulomb's Law
- **Electrostatics**
 - Electrostatic Force
 - Triboelectric Effect
 - Relationship between Static Charge and ESD

II. ESD Dynamics

- **ESD Events**
- **ESD Models**
 - Types of ESD Models
 - Relationship between ESD Models and ESD Events
- **ESD Control**
 - Importance of ESD Control
 - Sources of ESD
 - Effects of ESD
 - ESD Control Measures
- **ESD Certification**

