



## Course Catalog

### **HI 101 Battery History**

Take a step back in time and learn about the beginnings of batteries. Take a journey through the first uses in the 1700's with the Leyden Jar in the "Kissing Game" and see the evolution to the uses in electric cars. This is a light-hearted fun course to see where it all began!

Course Duration: 30 min

### **HI 102 Battery Sizing**

Using the IEEE Standard 485 this course will teach you the proper techniques for sizing lead acid batteries for utility applications. You will get a basic understanding of the chemistry of lead acid and Nicad batteries as well as the step by step guide to sizing.

Course Duration: 4-5 hours

Abbreviated Course: 45-60 min

### **HI 103 Battery Charger Basics**

This is the starting point for stationary battery chargers. Learn the foundation of what is required when creating a specification for charger applications. You will learn the process of how the AC is converted to DC, what are float and equalize voltages and some of the diagnostic and monitoring capabilities of microprocessor chargers.

Course Duration: 45-60 min

### **HI 104 Battery Charger Sizing**

Learn the proper way to size stationary battery chargers for your DC application. Using the IEEE standards, you will learn the step by step procedure to properly size battery charger sizes.

Course Duration: 30-45 min

### **HI 105 Designing More Reliable DC Systems using Redundancy**

Reliability is important in today's utility world and a big part of that is adding redundancy to the system. Learn how to utilize Best Battery Selectors (Steering Diodes) to provide seamless redundancy and the basics of how they work.

Course Duration: 30-45 min



### **HI 106 AC & DC Breaker Interrupting Capacity as It Relates to Battery Chargers**

Find out what AIC ratings are and how they relate to battery chargers. Using the NEC as a guide you will be taught good practice on determining what AIC rating should be used for the applications you have.

Course Duration: 30-45 min

### **HI 107 NERC PRC 005 and How It Relates to the DC System**

Understand the requirements of NERC in the DC System. We will take a close look at NERC PRC 005 Table 1-4(F) and the 8 points that are required. We will discuss some ways to help meet these standards and information that is valuable for putting together your PSMP.

Course Duration: 45 min

### **HI 108 The benefits to a Supervisory System in the DC world**

Learn about a new technology that will supervise the entire DC system. Understand the benefits of having a central hub that will monitor the battery, charger, distribution and other equipment that is part of the DC system.

Course Duration: 30-45 min

### **HI 109 Outdoor and Mobile DC Systems**

Explore some of the benefits to outdoor cabinets and trailer systems and how they can enhance your DC systems. With the growing demands of utilities and decrease space, outdoor cabinets are becoming a more common theme. This course will walk you through the basics as to what you should look for when designing your outdoor DC system.

Course Duration: 45 min

### **HI 110 Ground detection in the real world**

This course will discuss the different type of ground fault circuits used in utility applications. You will learn how they function and the benefits and disadvantages of each. Also, you will get some basic understanding and tips of troubleshooting ground faults in your system.

Course duration: 1 hour

### **HI 111 Specification Writing**

Learn the important elements of specifying a utility battery charger. You will also explore the essential elements of a good specification to ensure you meet the goals of the user.

Course duration: 45 min