

# DC through Low-Frequency Power-Delivery Essentials

*Enhance knowledge and skills to promote process efficiency and product yield*

## Organizational Benefits

Reduce tool cost of ownership

Optimize tool productivity

Increase troubleshooting and diagnostic skills

Increase process understanding

Improve yields by optimizing tool performance

## Key Learnings

Understand what arcing is; learn what causes arcs and the best ways to manage arcing to improve yields

Learn essential grounding concepts and the practical differences between DC and AC grounding

Isolate suspect power supplies from system problems

Discover when and why to use DC, pulsed DC, or AC (40 to 400 kHz) power sources for certain plasma-based processes

## Target Audience

Machine operators

Maintenance personnel

Equipment and process engineers

Managers and sales personnel

## Description

This class dispels the mysteries of plasma processes and power delivery. Novices and experts alike will learn about the capabilities and limitations of DC, pulsed DC, and low-frequency (40 to 400 kHz) power supplies for various processes.

Students will learn about arcing, including what causes arcs and how they can be managed to maximize process efficiency and product yields. This course also covers troubleshooting fundamentals that will help your employees quickly isolate suspect power supplies from a system problem. The hands-on lab session with a custom plasma system has proven effective in demonstrating the concepts discussed during lecture, enabling students to immediately begin implementing skills learned in this class.

## Modules

- *Vacuum coating overview*
- *Plasma ignition concepts*
- *DC processes*
- *Arcing and arc management*
- *Pulsed DC processes*
- *Low-frequency processes*
- *Grounding*
- *Troubleshooting*

## Materials and Language

Each attendee will receive a comprehensive course handbook that includes presentation notes as well as a CD of the course material and a number of white papers related to the course topic.

The standard course and materials are delivered in English. For international customers, special arrangements can be made to provide a qualified translator.

## Instructor

The course instructors are experts in plasma-based processes that use DC and LF power sources. On average, our instructors have over 20 years of plasma-applications engineering experience.