



Designed and sanctioned by CASF for Canadian electroplaters and suppliers, the Introduction to Electroplating course consists of 12 modules taught over 2 days. Each lesson provides valuable and practical information about the basic science and process of electroplating. Upon completion of this course, students will have a basic understanding of electroplating processes and principles, electrochemistry, the equipment used in electroplating, maintenance techniques and the best practices for successful electroplating. This is an excellent introduction for those new to the electroplating industry.

#### Date:

November 14<sup>th</sup> & 15<sup>th</sup>, 2019 Nov. 14<sup>th</sup>: 8:00 AM to 5:00 PM Nov. 15<sup>th</sup>: 8:00 AM to Noon **Location:** Homewood Suites 618 Applewood Cr. Vaughan, ON

Special Room Rates Available:

\$149 + Taxes Includes parking, breakfast and Wi-Fi.

#### **Course Fee for CASF Member Companies:**

\$400\* each for first 2 participants, \$700\* for subsequent participants

#### **Course Fee for Non-Members:**

\$1,000\* per participant

(\*Plus HST)

#### Who benefits?

This training course benefits those who have little or no experience or training in electroplating, such as new hires for plating line work or environmental systems personnel, supervisors, sales and account management personnel serving metal finishers, and managers who want an introductory technical primer on the subject. This course will also be helpful for those who wish to progress with more advanced training.

#### Goals

The goal of this course is to provide a basic understanding of electroplating terminology, knowledge of surface treatment and process equipment used in electroplating operations and safe and best practices in the industry. It is often said electroplating is a delicate blend of art and science!

# Upon completion of this course, attendees can expect to:

- Have a basic level of understanding of electricity, math, and chemistry/electrochemistry as it relates to the electroplating process.
- Have the ability to identify and describe the main equipment and components in the electroplating process.
- Have a broader understanding of the different kind of finishes commonly applied by the electroplating process.
- Learn basic troubleshooting and maintenance techniques of an electroplating process.
- Understand the technology behind electroplating, its uses in industry and the difference between electroplating processes and their benefits.

# **Register Today! Space is limited.**

Click here for more course information on CASF.ca

Click here to Register on Eventbrite

For more information visit <u>www.CASF.ca</u> or contact Robert Smith Robert.Smith@Macdermidenthone.com or 416-709-9196





Introduction to Electroplating



# **Course Instructor: Danielle Miousse**



With a PhD in Electrochemistry from Sherbrooke University and MSF Certification, Danielle has 30 years of experience in the electroplating industry. She has worked as a Lab Manager, Plating Manager, and Operations Manager. She has experience with Process Improvement, Troubleshooting, Quality, Environment and Root Cause Analysis.

Danielle also has extensive teaching experience at the University and College levels. In addition, she has custom training experience in plating shops – including training in surface finishing, wastewater treatment, and WHMIS. Danielle is currently the Operations Manager for Techsolutions R.J. Inc.

# **Course Description**

**1. General Introduction to Electroplating** 

What is electroplating? What is the difference between functional and decorative electroplating? Between anodizing and electroplating? What type of properties can be achieved through electroplating depending on the coating?

#### 2. Basic Chemistry/Electrochemistry

Brief description of basic chemistry and electrochemistry concepts required to get a better understanding of what is going during an electroplating sequence.

#### 3. Basic Mathematics in Electroplating

Important mathematics concepts used in electroplating: surface calculations, current density, Faraday's law, Ohm's law, current efficiency.

#### 4. Electroplating Line

Short overview of the equipment that makes up a plating line and the different choices available.

## 5. Surface Preparation

Importance of proper cleaning and presentation of the options available for proper surface preparation prior to entering the electroplating tank.

#### 6. Rack Plating

A description of rack components, types, usage, and selection depending on the type of parts to be processed. Also, the importance of proper racking methods and good electrical contacts in order to get the highest plating quality.

#### 7. Barrel Plating

This chapter describes barrel components, usage and limitations.

#### 8. Importance of Proper Rinsing

Description of the relation between drag-out, solution entrapment and parts geometry on rinsing quality and plating defects.

#### 9. Most common plating processes

This section describes briefly the following processes for both engineering and decorative applications: nickel, chromium, zinc and copper plating.

## 10. Troubleshooting Guide

Presentation of a short troubleshooting guide including general defects, potential causes and cures.

## 11. Maintenance / Routine Inspection

Description of a routine inspection of the line prior to processing parts & general maintenance guide.

## 12. Environment, Health & Safety

This chapter briefly covers the following elements: Personal Protective Equipment, chemical incompatibilities, actions to be taken after a chemical spill and during a power failure.

**Register Today!** Click <u>here</u> to Register or visit <u>www.CASF.ca</u> for more information