

WebCorr Corrosion Consulting Services Presents

A Basic Course in Corrosion Control and Prevention

Date: As published on website Venue: As published on website

Course Overview

This 5-day basic corrosion course covers fundamental aspects of corrosion control and its prevention. The course will enable beginners to establish a solid foundation in corrosion before moving on to advanced topics. Exercises, hands-on practical sessions and virtual experiments throughout the course will help participants understand the basic concepts and fundamentals important to corrosion. This basic corrosion course also helps participants prepare for their NACE certification examinations at the Corrosion Technician, Corrosion Technologist and Senior Corrosion Technologist levels. It provides an excellent avenue for corrosion practitioners, designers, technical managers, inspection and maintenance engineers, quality control personnel and those involved in failure analysis to update their appreciation of corrosion and the awareness of the emerging technologies for corrosion control and prevention.

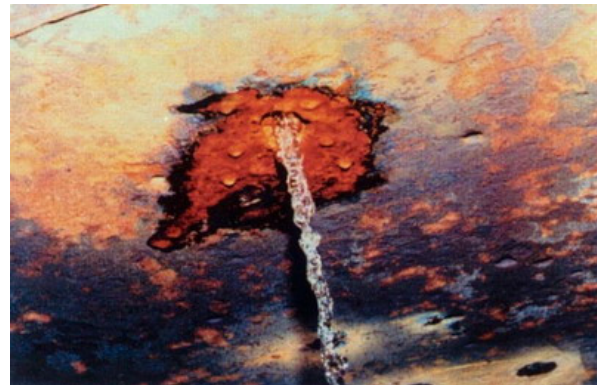
This corrosion course is available for in-house training, online and distance learning worldwide. It can also be customized to meet the specific needs of your organization.

Who Should Attend

Corrosion practitioners, designers, architects, technical managers, inspection and maintenance engineers, quality control personnel and those involved in failure analysis.

Course Outline

- 1.1 Introduction
- 1.2 Corrosion: What it is -Definition of Corrosion
- 1.3 Corrosion in Action: Examples of Corrosion
- 1.4 Corrosion and Society: Its economic, social, political and environmental impacts
- 1.5 Liabilities due to corrosion
- 1.6 Lessons of History
- 1.7 Basic Concepts in Corrosion



- 1.8 Primer in Chemistry and Electrochemistry
- 1.9 Understanding Electrochemical Cells
- 1.10 Corrosion Terminologies and Conventions
- 1.11 Exercise/practical session
- 2.1 Why Do Metals Corrode?
- 2.2 Thermodynamics
- 2.3 Faraday's Law
- 2.4 Electrode Potentials
- 2.5 Reference Electrodes
- 2.6 Electromotive Force (EMF) Series vs Galvanic Series
- 2.7 Nernst Equation
- 2.8 Pourbaix Diagram (Potential - pH Diagram)
- 2.9 Passivity
- 2.10 Kinetics: The Rate of Corrosion
- 3.1 How Do Metals Corrode: Different Forms of Corrosion: Mechanisms, Recognition and Prevention
 - 3.1.1 General Attack/Uniform Corrosion
 - 3.1.2 Galvanic Corrosion/De - Alloying
 - 3.1.3 Pitting Corrosion
 - 3.1.4 Crevice Corrosion
 - 3.1.5 Filiform Corrosion
 - 3.1.6 Intergranular Corrosion/Exfoliation
 - 3.1.7 Environmental Cracking
 - 3.1.8 Liquid Metal Embrittlement
 - 3.1.9 Hydrogen Damage
 - 3.1.10 Corrosion Fatigue
 - 3.1.11 Flow Assisted Corrosion
 - 3.1.12 Fretting Corrosion
 - 3.1.13 High Temperature Corrosion

Course Outline

- 4.1 Practical Corrosion Cells Diagnosis
 - 4.1.1 Galvanic Cell
 - 4.1.2 Concentration Cell / Differential Aeration Cell
 - 4.1.3 Active/Passive Cell
 - 4.1.4 Thermogalvanic Cell / Temperature Cell
 - 4.1.5 Stress Cell
- 4.2 Corrosion in Specific Environments
 - 4.2.1 Corrosion in Atmosphere
 - 4.2.2 Corrosion in Waters
 - 4.2.3 Corrosion in Soil
 - 4.2.4 Corrosion in Concrete
- 4.2.5 Corrosion in High Temperature Environments
- 4.3 Methods for Corrosion Control and Prevention (I)
 - 4.3.1 Materials Selection and Design
 - 4.3.2 Protective Coatings and Linings
- 5.1 Methods for Corrosion Control and Prevention (II)
 - 5.1.1 Cathodic Protection and Anodic Protection
 - 5.1.2 Modification of Environment
- 5.2 Corrosion Testing and Monitoring
- 5.3 Corrosion Prediction & Modeling Software
- 5.4 Hands-on: Corrosion Prediction & Modeling
- 5.5 End of Course Examination

Course Registration

Please register online at www.corrosionclinic.com
Or use the form below (photocopies of this form may be used for multiple bookings).

Dr/Mr/Ms _____
Organization _____

Contact Person _____

Contact Dept _____

Telephone _____ Fax _____

Email _____

Payment should be made by TT or online banking. Currencies in Australian Dollar, Canadian Dollar, US Dollar, Euro and Sterling Pound can be transferred directly without conversion. Our bank details can be found at the link below:

<https://www.corrosionclinic.com/payment.html>

Course Fee and Discount

Standard: \$3,500 **Discount:** \$3,150

The fee includes a hardcopy of course note, certificate, light lunch, coffee breaks each day during the course.

Discount applies to a group of 3 or more persons from the same organization registering at the same time, or early-bird making payment at least 8 weeks before the course commencing date.

Cancellation and Refunds

Cancellation or replacement should be conveyed to WebCorr in writing (email or fax). An administration charge of 50% of the course fee will be levied if the cancellation notice is received from 14 to 7 days before the course commencing date. No refund will be made for cancellation notice received 6 days and less. No refunds will be given for no-shows. Should WebCorr find it necessary to cancel a course, paid registrants will receive full refund. Refund of fees is the full extent of WebCorr's liability in these circumstances.



WebCorr has NACE certified Corrosion Specialist (#5047) providing customized in-house training, online and distance learning corrosion courses, corrosion seminars and workshops on corrosion, materials, metallurgy, paints and metallic coatings. Our corrosion courses are developed and taught by NACE certified Corrosion Specialist with over 30 years of practical experience in the field. Our training success is measured by your learning outcome.