

*WebCorr Corrosion Consulting Services Presents*

# Modern Techniques for Corrosion Testing and Monitoring in Concrete Structures

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

## Course Overview

This one-day corrosion short course thoroughly and systematically covers the principles and applications of a wide range of the latest techniques for corrosion testing and monitoring in concrete structures. These modern techniques can provide rapid and sensitive measurements and detection of corrosion in concrete structures. An optional one-day practical will enable the participants to gain hands on experience in using the state-of-the-art equipment for corrosion testing and monitoring in concrete structures.

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

## Who Should Attend

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

## Course Outline

1. The Need for Corrosion Testing and Monitoring in Concrete Structures
  - 1.1 Assessment of the Extent of Corrosion Damage
  - 1.2 Determining the Rate of Corrosion Damage
  - 1.3 Early Warning - Monitoring the Rate of Corrosion Damage
  - 1.4 Evaluating the Effectiveness of Repair/Rehabilitation
2. The Nature of Corrosion Process in Concrete Structures
  - 2.1 Concrete Corrosion: What it is
  - 2.2 Physical Changes Due to Corrosion
  - 2.3 Chemical Changes Due to Corrosion
  - 2.4 Corrosion Rate and Current Density
3. Indirect Methods for Corrosion Testing and Monitoring
  - 3.1 Depth of carbonation
  - 3.2 Depth of chloride penetration
  - 3.3 Electrical resistance (ER probe)



- 3.4 Concrete resistivity
- 3.5 Half-cell potential mapping (ASTM standard C876)
- 3.6 pH, Temperature
- 3.7 Moisture
4. Direct Methods for Corrosion Testing and Monitoring
  - 4.1 Linear polarisation resistance measurement
  - 4.2 Potentiodynamic polarization
  - 4.3 AC Impedance measurement
  - 4.4 Electrochemical noise measurement
5. Design of Corrosion Sensors in Concrete Structures
  - 5.1 Overview of sensor designs
  - 5.2 Interfaces with sensors
  - 5.3 Advantages and limitations
  - 5.4 Cost considerations
6. Practical Sessions (optional 1-day)
 

Actual concrete cubes will be used for the following measurements:

  - 6.1 Half-cell potential mapping
  - 6.2 pH & carbonation
  - 6.3 Linear polarization resistance measurement
  - 6.4 Potentiodynamic polarization
  - 6.5 AC Impedance measurement

### Course Registration

Please register online at [www.corrosionclinic.com](http://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:** \$2,500      **Discount:** \$2,250

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-birds 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.

