

Corrosion and Its Prevention

Registration Form

Photocopies of this form may be used for registrations.
You can also register online at www.corrosionclinic.com

Please register the following person(s) for the above course (please TYPE or PRINT clearly):

1. Dr/Mr/Ms _____
Designation _____
2. Dr/Mr/Ms _____
Designation _____
3. Dr/Mr/Ms _____
Designation _____

*delete where inappropriate

Enclosed is a cheque / bank draft No. _____
for S\$ _____ (payable to "WebCorr Corrosion
Consulting Services") being Registration Fee for the
above person(s).

Organization _____
Contact Person _____
Contact Dept _____
Telephone _____ Fax _____
Email _____

Crossed cheques should be made payable to
"WebCorr Corrosion Consulting Services" and
mailed together with the registration form to:

WebCorr Corrosion Consulting Services

Toa Payoh Central, PO Box 225,
Singapore 913108

Tel: (65) 64916456 Mobile: (65) 97110759

Fax: (65) 64916456

Email: webcorr@corrosionclinic.com

<http://www.corrosionclinic.com>

Course Details

Date: TBA
Time: 9:00 am to 5:00 pm
Venue: 1 Science Park Drive
Course Fee: S\$1495 (GST not applicable)
Closing Date: 2 weeks before course date
Discount:
Group: (3 or more people): 10%
Early-bird: N% **if paid** "N" months
before the course
commencing date

Withdrawal/Refund Policy:

Withdrawal or replacement should be conveyed to the organizer in writing (email or fax). An administration charge of 50% of the course fee will be levied if the withdrawal notice is received less than 7 working days before the course commencing date. No refund will be made for withdrawal notice received 3 working days and less.

Certificates:

Certificate of attendance will be given to participants with at least 75% attendance of the course.

Cancellation:

WebCorr reserves the right to cancel the course and fully refund the participants should unforeseen circumstances necessitate it.

Corrosion and Its Prevention

Conducted by:

Dr. Qiu Jianhai BEng PhD CEng MIM FICorr
NACE Certified Corrosion Specialist

Date:
TBA

Venue:
Einstein Room
1 Science Park Drive
Singapore 118221

Organized by:



Course Overview:

This corrosion short course systematically and thoroughly covers the basic theory of corrosion and the practice of corrosion control and prevention. The course aims to achieve two objectives, namely, (1) to understand why and how corrosion occurs and (2) to know how to control and prevent corrosion. This 2-day course 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, prevention, testing and monitoring.

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.

Course Contents

- 1 Corrosion & Society
 - 1.1 The economic, social, political and environmental impacts
 - 1.2 Liabilities due to corrosion
 - 1.3 Lessons of history
- 2 Basic Concepts in Corrosion
 - 2.1 Terminologies and conventions
 - 2.2 Why do metals corrode
 - 2.3 How do metals corrode
- 3 Different Forms of Corrosion: Mechanisms, Recognition & Prevention
 - 3.1 Uniform corrosion
 - 3.2 Galvanic corrosion
 - 3.3 Dealloying and graphitization (graphitic corrosion)
 - 3.4 Intergranular stress corrosion cracking, weld decay and knife-line attack

- 3.5 Exfoliation
- 3.6 Crevice corrosion
- 3.7 Pitting corrosion
- 3.8 Filiform corrosion
- 3.9 Microbiologically-Influenced Corrosion (MIC)
- 3.10 Environment-sensitive cracking
- 3.11 Hydrogen Damage
- 3.12 Corrosion fatigue
- 3.13 Fretting
- 3.14 Erosion corrosion, impingement attack and cavitation damage
- 3.15 Stray current corrosion
- 4 Corrosion in Atmosphere
 - 4.1 Classification of atmosphere
 - 4.2 Absolute humidity and relative humidity
 - 4.3 Calculation of time-of-wetness (ToW)
 - 4.4 Effect of moisture thickness on corrosion
 - 4.5 Effect of air pollutants
 - 4.6 Corrosion behaviour of common metals and alloys in atmospheres
- 5 Corrosion of Common Metals and Alloys
 - 5.1 Cast Irons and carbon steels
 - 5.2 Stainless steels and nickel alloys
 - 5.3 Aluminum alloys, copper alloys, titanium alloys
- 6 How to Control and Prevent Corrosion
 - 6.1 Materials Selection and Design
 - 6.2 Corrosion Resistant Coatings
 - 6.3 Cathodic & Anodic Protection
 - 6.4 Corrosion Inhibitors
 - 6.5 Corrosion Testing & Monitoring

Who Should Attend

This 2-day corrosion short course has been structured in such a way that it is particularly suited for the technologists and engineers who wish to gain an overall knowledge of corrosion and corrosion control, and also to the more experienced corrosion practitioners who may want to update their knowledge in a particular area.

Course Lecturer

Dr. Qiu Jianhai *BEng PhD CEng MIM FICorr*

Dr Qiu obtained his BEng and PhD degrees both in the field of corrosion. He has 27 years of industry, university teaching, research and consulting experience in areas of corrosion and its prevention. He has been working closely with both local and overseas companies and has been an active consultant to governmental agencies, multinational companies and private organizations on corrosion and materials related issues such as corrosion design review, materials selection and life prediction, corrosion inspection and condition assessment, plant process optimization, corrosion training, corrosion testing and monitoring, trouble-shooting and corrosion failure analysis. Dr Qiu has recently completed the design of a cathodic protection system for the upcoming Marina Coastal Expressway (MCE) Tunnels. Dr. Qiu is also experienced in providing expert witness and assistance in litigation and arbitration matters related to corrosion and materials. He has authored over 120 technical papers and reports. Dr. Qiu was an invited contributing author to the latest edition of the world renowned ASM Handbook Vol.13C Corrosion: Environments and Industries. His biographical profile was included in the 7th edition of Marquis Who's Who in Science and Engineering.

Dr. Qiu is a NACE certified Corrosion Specialist (USA) and a Fellow Member of the Institute of Corrosion (UK). He is a Chartered Engineer registered with the Engineering Council (UK), a professional member of the Institute of Materials, Minerals and Mining (UK), He is the Singapore representative in the International Corrosion Council (ICC).