This training course will feature:

- Assessment and evaluation technique for concrete and steel structures
- The importance of inspection and testing activity
- Applying the inspection and testing in many construction areas
- Focusing on practical and theoretical ways of inspection
- How to integrate new inspection technique into the work domain

This course is Designed, Developed, and will be Delivered under ISO 29990:2010 & ISO 9001:2015 Standards
WHY CHOOSE THIS TRAINING COURSE?

The assessment of the reinforced concrete structure is now a main challenge to the civil engineer. The repair of the reinforced concrete structures has developed in the recent years due to the new technology of the materials and the techniques of maintenance and repair.

This course will present the methods of inspection and evaluation of buildings and will diagnose the reason of concrete deterioration or the corrosion of the steel bars to develop preventive maintenance program. The causes of structure deterioration will be discussed in deeply and concentrate on the reason of corrosion and new protection methods to the steel bars. The repair of the reinforced concrete structures recently developed by using new materials will be discussed theoretically and practically, its advantages and disadvantages and how to use the suitable method.

The preventive maintenance strategy with its target and plan in scope of economic point of view will be illustrated in this course, as well as the background of the new software used in the area maintenance management system. Risk based inspection technique will be presented in scope of likelihood of building failure, consequences of failure and the building risk matrix.

WHO IS THIS TRAINING COURSE FOR?

This training course is suitable to a wide range of professionals:

- Architects
- Engineers
- Practicing Building Construction Inspectors
- Project Engineers
- Technicians and Technologists involved with building maintenance

This training course will also benefit owners, contractors and building owners, who wish to become more effective by better understanding the requirements for assessment, inspections and repair for concrete structure.

HOW WILL THIS TRAINING COURSE BE PRESENTED?

This training course will utilise a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. The daily workshops will be highly interactive and participative. The illustration will depend on videos and photos.

WHAT ARE THE GOALS?

By the end of this training course, participants will be familiar with:

- Testing and inspection techniques of engineering materials
- Workmanship in building construction
- NDE for the steel and welding
- The capability to inspect the finishing work activity
- Testing and inspection for road construction
- The ways and skills for the inspector

QUALITY CERTIFICATIONS
Daily Topics

DAY ONE
Building Assessment

Competency Description: As an engineer, you need to know the factors affect the concrete durability and the way of inspection.

Key behaviours:
- Understand the change in design and code with times
- Understand the codes design principal
- Understand RC reliability
- Inspection technique

Topics to be covered:
- Introduction to mature structure
- Codes and standard deficiency
- Inspection and evaluate the buildings
- Methods of Inspection
- Visual inspection criteria
- Inspect the building using a new techniques
- Using ultrasonic and infrared for inspection.
- Evaluate the building risk
- Diagnoses the reason of deterioration
- Workshop: Define the cracks types
- Workshop: cracks in miscellaneous foundations

DAY TWO
Problems in Design, Materials and Construction

Competency Description: As an engineer, you need to know the corrosion phenomena and the ways of protection, and the concrete materials and its deficiency.

Key behaviours:
- Understand the corrosion phenomena
- Understand the design, materials and construction pitfalls affect structure integrity
- Understand the concrete construction ways

Topics to be covered:
- Concrete materials problems
- Construction ways affect concrete durability
- Design error affect structure integrity
- Corrosion and protection of steel structure in concrete
- Protection of reinforcing bars
- Define the method of repair
- Videos presenting a repair methods
- From inspection and analysis predict the structure life time

DAY THREE
Properties of Protective Coating

Competency Description: As an engineer you need to know the ways of steel structure QC on site.

Key behaviours:
- Understand the repair methods
- Understand the materials used in repair
- Understand the protective coating characteristics.

Topics to be covered:
- Precaution during repair
- Selecting the materials repair
- Step by step repair procedure
- Methods of protection
- Cathodic protection
- Comparison between different type of protection.
- Evaluate the current protective coating
- Types of protective coating
- Properties of each type
- Precautions in using the coating
**Daily Topics**

**DAY FOUR**
Methods of Repairing the Cracked Structure
Corrosion

**Competency Description:** As an engineer, you need to know the ways of soil investigation and architectural work inspection.

**Key behaviours:**
- Understand the methods of repair
- Understand the polymers and its behaviour
- Understand the differences between different cracks
- Understand the use hot rolled steel section for repair

**Topics to be covered:**
- Types of cracks in R. C. structures
- Comparison between different cracks
- Reasons for each type
- Methods of repair and prevent for each type.
- Materials using to repair corroded structure
- Methods of repair
- Using polymer bonding materials
- Types of polymer
- Properties of these materials
- Ways of using steel sections in repair

**DAY FIVE**
Maintenance Strategy

**Competency Description:** As an engineer, you need to know the ways of repair using CFRP.

**Key behaviours:**
- Understand the design for CFRP for repair and strengthening
- Understand the application of CFRP
- Understand the RBI technique

**Topics to be covered:**
- CFRP design
- CFRP applications
- Likelihood of building failure
- Define consequences of failure
- Provide risk matrix
- Risk based inspection (RBI)
- Maintenance plan and strategy
- Maintenance plan based economic cost
- Preparing priority lists
- Software for maintenance strategy
- Case study
Assessment, Evaluation and Repair of Reinforced Concrete Structure

Please use BLOCK CAPITALS to fill in this form. It is important that you read carefully through all information before starting to complete the form.

REGISTRATION DETAILS

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AUTHORISATION

Authorised by

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HOTEL ACCOMMODATION

Hotel accommodation is not included in the Registration Fee. A reduced corporate rate and a limited number of rooms are available for attendees wishing to stay at the hotel venue. Please make your request for accommodation at least 3 weeks prior to the commencement of the course.

CERTIFICATION

A Certificate of Completion will only be awarded to those delegates who attend the entire course.

COURSE SCHEDULE

12 - 16 November 2017
Dubai, United Arab Emirates

REGISTRATION FEES

US$ 4,500/ - per participant
This fee is inclusive of Documentation, Lunch and Refreshments

MODE OF PAYMENT

- Please invoice my company
- Please invoice me
- Cheque payable to “PetroKnowledge Limited”

WAYS TO REGISTER

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CANCELLATIONS & SUBSTITUTIONS

You must notify the Registrar of cancellations at least 2 weeks before a scheduled seminar in order to be eligible for a credit. If you cannot attend, you may send a replacement from your organisation at no charge. There is a $250 handling charge for all cancellations or rescheduling. We reserve the right to cancel a seminar due to low enrolment. All registrants will be notified in advance and a full refund will be provided upon request.

DISCLAIMER

Circumstances beyond the control of PetroKnowledge may necessitate postponement, change of venue or substitution of the Instructor. As such, PetroKnowledge reserves the right to implement such amendments.