


**OSTEN**  
SERVICES



**Corrosion Management In Production & Process Operations**

# Course Description:

- This course will cover the main causes of corrosion in upstream oil and gas operations, as well as monitoring and mitigation methods. The various corrosion mechanisms give rise to a number of different forms of corrosion damage which will all be considered. Participants will estimate the corrosivity of a given environment through analysis of the chemical and physical characteristics of the system. You will select materials and coatings for corrosion resistance for different conditions and applications, including the use of NACE MR0175. You will also conduct CP surveys, select the system type, estimate current requirements, and design simple cathodic protection systems. There will be an opportunity to select and utilize corrosion inhibitors for different systems and you will learn how to select and apply corrosion monitoring techniques to create an integrated monitoring program. This course provides an appropriate balance of necessary theory and practical applications to solve/mitigate corrosion related problems

# Course Objective:

- **By the end of this course delegates will be able to:**
- The basics of corrosion chemistry
- The main corrosion mechanisms occurring in oil and gas production/processing systems
- The different types of damage caused by corrosion
- About materials selection for corrosion prevention
- How to conduct cathodic protection (CP) surveys
- Items to consider in corrosion inhibitor selection
- Some advantages and disadvantages of the various corrosion monitoring methods
- Where the main locations of corrosion concern occur within oil production systems, gas processing facilities (including amine units), and water injection systems.

# Course Methods

- This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include.
  - Lectures
  - Workshop & Work Presentation
  - Case Studies and Practical Exercise
  - Videos and General Discussions.

# Course outline

- Fundamentals of corrosion theory
- Major causes of corrosion (O<sub>2</sub>, CO<sub>2</sub>, H<sub>2</sub>S, microbiologically influenced corrosion)
- Forms of corrosion damage
- Materials selection
- Protective coatings & linings
- Cathodic protection
- Corrosion inhibitors
- Corrosion monitoring and inspection
- Corrosion in gas processing facilities
- Corrosion in water injection systems
- Corrosion management strategy and life cycle costs.