€TRAINING

HYHYS and Process Simulation

25 - 29 August 2024
Cairo (Egypt)

HYHYS and Process Simulation

Introduction:

This training program is designed to provide participants with hands-on experience in simulating processes within the oil, gas, and petrochemical industries. Through interactive workshops and exercises, participants develop the skills necessary to optimize processes, troubleshoot issues, and enhance overall efficiency in the industry.

Program Objectives:

At the end of this program, participants will be able to:

- Utilize simulation software to model processes within the oil, gas, and petrochemical industries.

- Analyze simulated data to optimize operations, troubleshoot issues, and enhance efficiency.

- Apply acquired knowledge to improve decision-making in refining, gas processing, and petrochemical production.

Targeted Audience:

- Chemical engineers

- Process engineers

- Petrochemical technicians

- International Oil and Gas companies staff.

Program Outlines:

Unit 1:

HYSYS Overview And Applications:

- Fluid and transport properties, Fluid characterization and fluid package.

- Fluid property calculation.

- Using HYSYS for oil and gas property simulation.

- Thermodynamic selection.

- Explain the Degree of Freedom &HYSYS Uniqueness.

- Understand the purpose of process and process modeling.

- Understand the importance of fluid characterization.

- Explain Basic Equipment in HYSYS: pump, separator, exchanger.

Unit 2:

Process Flow Diagrams in HYSYS:

- Material and energy balances.

- Customized reports.

- Extension applications.

- Oil and gas property applications.

Unit 3:

Simulation Practices:

- Oil, gas, and water separators.

- Pump and compressors.

- Heat exchangers.

- Valves, fittings, and pipelines.

Unit 4:

Distillation Columns:

- Apply simulation chemical reactors.

- Simulation practices.

- Oil pumping and transportation.

- Gas compression plant.

Unit 5:

Oil Stabilization Plant:

- NGL extraction by mechanical refrigeration.

- NGL fractionation plant simulation.

- Process optimization.

- Apply dynamic simulation on gas feed plants.