



THE CHEMICAL ENGINEERING MAJOR

Membrane Technology in the Chemical and Petrochemical Industry

Website: www.btsconsultant.com

Email: info@btsconsultant.com

Telephone: 00971-2-6452630



Membrane Technology in the Chemical and Petrochemical Industry

Course Description:

Nowadays, membrane technologies are becoming more frequently used for separation of wide varying mixtures in the petrochemical-related industries and can compete successfully with traditional schemes. This course will highlight the application of membrane processes in petrochemical industry, processes such as Olefin/paraffin separation, light solvent separation, solvent dewaxing, phenol and aromatic recovery, dehydrogenation, oxidative coupling of methane and steam reforming of methane will be discussed in detail. Special emphasis will be drawn to using membrane processes for gas separation.

Who Should Attend?

- Petroleum/Petrochemical engineers
- Geologists
- Technical/ reservoir engineers
- Drilling engineers
- Processing engineers

- Commercial analysts
- Decision makers/ Investors in the oil and gas sector

Course Objectives:

- Providing a clear vision about using membranes as an emerging separation alternative technology for conventional techniques used in chemical and petrochemical industry.
- Gaining comprehensive prospective about membrane technology in gas separation industry.
- Learning membrane applications in petrochemical sector, such as Olefin/paraffin separation, light solvent separation, and solvent dewaxing.

Course Schedule:

Day 1

- Introduction.
- The separation of Gases by Membranes
- Theory of Gas Transport in Membranes
- Porous Membranes
- Non-Porous Membranes
- Rubbery Polymers
- Glassy Polymers
- Engineering Aspects
- Preparation of Membranes for Gas Separation
- Membrane Testing and Evaluation

Day 2

- Applications of Gas Separating Membranes

- Hydrogen Recovery
- Carbon Dioxide Separation
- Oxygen/Nitrogen Separation
- Nitrogen from air
- Oxygen from air

Day 3

- Applications of Gas Separating Membranes Hydrogen H₂/gas (CO, N₂, C₁, C₂)
- Natural gas CO₂ removal NGL removal and recovery N₂ removal, dehydration
- Vapour (C₂+)/Gas (N₂, Ar)
- Vapour/Vapour (including dehydration)
- Air dehydration
- Other Separations

Day 4

- Olefin/paraffin separation
- light solvent separation
- solvent dewaxing

Day 5

- phenol and aromatic recovery
- dehydrogenation
- oxidative coupling of methane