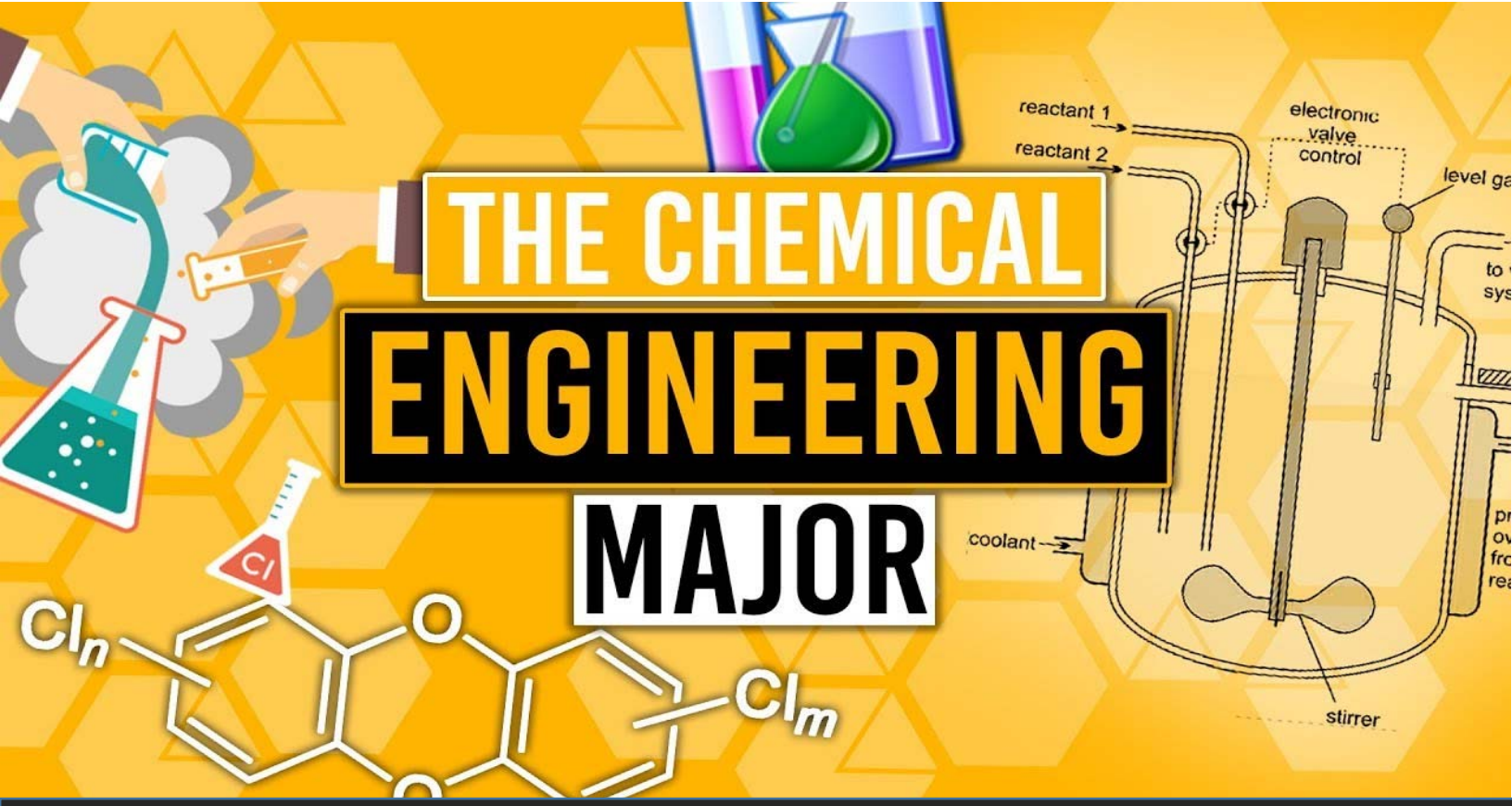

Furnace Operations- Primary Reformer

BTS
Training & Consultancy

Furnace Operations- Primary Reformer

Introduction

Optimization of furnaces is critical to safety, legislation requirements, and conflicting requirements of reducing operating costs, increasing production throughput, and meeting environmental requirements. This course will introduce the principles and practices associated with combustion techniques in fuel-fired furnaces with emphasis on enabling participants to improve the thermal efficiency of their furnaces and meeting environmental compliance targets. Different aspects in combustion techniques, fuels characteristics, flame structures, flow and mixing in flames, fuel atomization and combustion of fuel sprays, gaseous combustion, fuel burners, and combustion control systems, measuring techniques in evaluating flame performance, troubleshooting, and guidelines for safe, efficient operation and environmental management of furnaces will be covered. Information on how to properly adjust burners for maximum efficiency, safe operation, and minimum level of emission is presented.

Objectives

This course is designed to help attendees to:

- Develop a complete understanding of the concepts underlying combustion technology and energy conser Vation methodology.
- Be familiar with different factors affecting furnace efficiency and gas emissions.
- be familiar with environmental requirements related to fuel-fired furnaces
- Monitor furnaces combustion processes, unit efficiencies, and evaluate emission levels.
- Be familiar with the best practice of furnace operation, optimization and environmental management.
- Understand and integrate instruments and controls to optimize the operation of furnaces

Who should attend?

Boiler and Heater Combustion Engineers, Boiler and Power Plant Engineers & Plant Operators, Maintenance Craftsmen, Petrochemical Process Engineers and Technicians.

Course Outline

- Types of furnaces and boilers
- Furnace and Process Controls
- Operating conditions
- Fundamentals of Combustion
- Combustion Air Blowers/Fluid Flow
- Combustion System Safety
- Round Table Discussion, Combustion System Maintenance
- Boiler and furnaces fuels
- Burners: fuel and air supply and mixture, burner operation, low NOx burners characteristics.
- Gas Emissions from fuel-fired heaters
- Environmental legislation requirements of fuel-fired heaters
- Furnaces operation, controls and instrumentation
    - On-stream furnace operations
    - Startup and shutdown
    - Incidents
- Optimization for efficient furnaces and minimum emission levels
- Maintenance and troubleshooting of fuel-fired heaters
- Diagnostic facilities; ways of solving problems.
- Case studies

Presentation of Certificates