

# MECHANICAL COURSES

## HEAT EXCHANGERS: DESIGN, PERFORMANCE AND OPERATION (M37A)

### OBJECTIVE:

This program provides knowledge and skills in the heat exchanger design and main problems of fouling, corrosion, vibration, and water hammering in heat exchangers.

### WHO SHOULD ATTEND?

This program is recommended for maintenance foremen, supervisors, and engineers who are involved in the field of heat exchanges operation and maintenance.

### COURSE CONTENT:

- Classification of Heat Exchangers
- Newer Designs of Shell and Tube Exchangers
- Fouling, Corrosion, Vibration, and Water Hammer
- Heat Exchangers Operation and Troubleshooting
- Heat Exchanger Maintenance
- Heat Exchanger Nomenclature
- Heat Exchangers Exhibit Booklet

### PRACTICAL TASKS:

- Identify the defect of fouling, corrosion, vibration and water hammer on the heat exchanges.

**Duration: 5 Days**

Date:	Venue:	Cost:
Jan 17 – 21	Abha	SR 8,000
May 30 – Jun 3	Dammam	SR 7,000
Sep 27-Oct 1	Cairo	SR 9,000
Dec 19 – 23	Dammam	SR 7,000

## HEAVY DUTY GAS TURBINES (M102A)

### OBJECTIVE:

Upon completion of this course the participants will gain a complete vision of heavy duty gas turbine and its auxiliaries components, control, performance, operation and maintenance.

### WHO SHOULD ATTEND?

Plant personnel, unit supervisors, foremen, senior operators and senior technician who would like to gain more specific knowledge about heavy duty gas turbine and its auxiliaries.

### COURSE CONTENT:

- General Overview
- Thermodynamic Principles
- Affect of External Factors on Performance
- Key Parameters Affecting Performance
- Gas Turbine Components
  - Compressors
  - Combustion Section and Emission Reduction Principles
  - Bearings
- Auxiliary Systems
- Control Systems
- Operation (Start-Up, Synchronizing, Loading and Shutdown)
- Maintenance Overview and Schedule Inspections
- Components Acceptance Criteria
- Gas Turbine Alignment

**Duration: 5 Days**

Date:	Venue:	Cost:
Feb 28-Mar 4	Dammam	SR 7,000
Jun 20-24	Jubail	SR 8,000
Oct 17-21	Dammam	SR 7,000