

# INTRODUCTION TO GAS TURBINES

## Course Objectives

To provide an overview of the main components of a Gas Turbine together with the main systems that drive the Industrial Gas Turbine.

## Course Description

The use of Gas Turbines in the Power Generation, Petrochemical and Pipeline Industries has increased considerably in the last few years. The development, in particular, of Combined Cycle and Combined Heat and Power applications has accelerated the use of Industrial Gas Turbines. This course therefore is intended to provide an overview of the main components of a Gas Turbine together with the main systems that drive the Industrial Gas Turbine.

## Who Should Attend

This course is intended for any employee that is new to the Gas Turbine industry and requires a general overview of the types, capabilities and applications of industrial gas turbines.

## Pre-Requisites

All Attendees should have a basic engineering background.

## Course Outcome

At the end of this course you will be able to understand the components of a gas turbine.

## Course Outline

### Day 1

- Course Introduction
- Gas Turbine Theory/Principles
- Definition of terms (Heat Rate, Power Output)
- Simple Cycle, Combined Cycle
- Gas Turbine Types (Industrial, Aero-Derivative)
- Major Components of a Gas Turbine
- Compressor Overview
- Combustor Types, Theory and Overview
- Turbine Overview
- Major Accessory Components of a Gas Turbine
- Starting Devices
- Gearboxes (Accessory and Load)
- Generators

### Day 2

- Gas Turbine Applications
- Generator Drive
- Compressor Drive
- Overview Of Gas Turbine Piping Schematics
- Reading Piping Schematics and P&ID's
- Gas Turbine Piping Schematics
- Lube Oil System
- Hydraulic Oil System
- Starting System
- Fuel Systems

## Course Review and Assessment