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## Process Engineering Calculations Date: View Online -- Venue: View Online -- Fee: £5,000

**Overview:**

An abundance of industry sectors have been experiencing increasingly competitive market conditions, shortage of resources and substantial increases in the unit costs of energy, while responding to increased restrictions on pollution control standards.

Process Engineering is a discipline that assists industries in increasing their competitiveness and readiness to face these challenges of the modern world.

This program has been developed to equip delegates with an understanding of the fundamental issues of process systems within the process industries.

This course will provide up to date technical knowledge and skills required for achieving the best management, designing, optimising, controlling and maintaining of efficient process systems.

**Objectives**

* Demonstrate competence in the current theory and practice of process systems engineering.
* Effectively acquire and critically review information from various sources
* Use the techniques appropriate for the management of a modern process plant.
* Apply effectively the principles learned to the design, schedule of operation, instrumentation and control of process plants.
* Assess the risks and environmental impacts of a process plants and develop the necessary measures to minimise them.

**How this helps your organisation?**

* Increase efficiency and effectiveness within organisational processes
* Employees attain a deeper theoretical knowledge
* Possess knowledge on the latest international practices
* Effective risk reduction

## How this helps you personally?

* Increased knowledge and deeper understanding
* Improved skill set
* Increased confidence
* Increased recognition within the organisation
* Improved work performance and managerial skills
* Career enhancement

**Course Structure**

**Fundamentals of Process Engineering Calculations**

* Basics of Process Planning
* Manufacturing system
* The different levels of processing capabilities
* Process knowledge collection
* Experience based planning
* Hole making knowledge
* Decision Tree calculations
* An example of a decision table
* Fundamentals of Machining calculations
* Process tolerance range
* Case Study & Videos

**Heat Transfer, Exchangers, Condensers, Air coolers & Reboilers**

* The equation for heat conduction
* Heat transfer analysis through conduction
* Heat transfer analysis through convection
* Natural & Forced convection analysis
* Heat transfer analysis through radiation
* The Heat transfer coefficient
* Case Study & Videos

**Heat exchanger Mechanical Design**

* Design loading
* Cylindrical shell, end closures & forced head design
* Tube-sheet design in accordance to TEMA standards
* Case Studies & Videos

**Reliability Calculation**

* What are reliabilities?
* Discuss what a reliability calculation is
* Numerical representation of numerical liability
* Markov Process
* Simulative methods
* Stress Analysis
* Probability of Failure division
* Exponential rule of failure
* Poissons Division
* Videos & Case studies

**Compressed Air system & Compressors Calculations**

* Introduction
* What are the different types of compressors?
* Assessing compressed air system & compressors
* Opportunities for energy efficiency
* Reciprocating Compressor
* Rotary Compressor
* Centrifugal Compressor
* Capacity Assessment calculation
* Compressor efficiency calculation
* Injection moulding
* Case Study & Videos

**Course Dates:** Weekly

**Venue:** View Online

**Address:** Radisson Hotel

**Fee:** £5,000