Practical Process Engineering

Interdisciplinary understanding of a process plant
Who will it benefit
This course is primarily aimed at recent graduates and early-career professionals with design, operation, maintenance, procurement and safety responsibilities among others. It will also benefit experienced staff who are new to process engineering and scientists in other disciplines seeking to enter the process industry.

This course combines classes, workshops and live demonstrations in a 1 MW bioenergy process plant for combined heat and power generation. You will be operating, monitoring and controlling a number of subsystems from the control room.

Practical Process Engineering

Day 1. Practical introduction to process plant
> Process plant implementation
> Bioenergy process plant for the production of combined heat and power generation
> How to read complex P&IDs (workshop)
> Identifying components in a process plant (workshop)

Day 2. Mechanical systems
> Rotating equipment: pumps and compressors
> Industrial utilities (workshop)
> Systems for the transport of solids and fluids (live demonstration in the plant)
> Operating utilities in a process plant (live demonstration in the control room)

Day 3. Electrical systems
> Basic electrical concepts
> Elements in power distribution
> Electrical schematics (lecture and workshop)
> Industrial control panels (live demonstration)
> Understanding your building electrical system (live demonstration)

Day 4. Control systems
> Introduction to Programmable Logic Controllers
> Introduction to Siemens software
> Tracing signals through the process plant
> Basic concepts in communications
> Control systems integration
What will you learn?

You will get hands-on experience in a real process plant with a range of safety devices and emergency systems, plant utilities and different operating units:

> for solids handling, filtration and fluidisation,
> fluids transportation,
> heat transfer, gas absorption,
> heat and power generation

By the end of this course, you will be able to:

> Liaise with mechanical, electrical and control engineers using their jargon
> Apply multidisciplinary skills in troubleshooting engineering systems
> Read complex piping and instrumentation diagrams
> Read electrical schematics and simple single-line diagrams
> Get familiar with hardware and software involved in control systems
> Understand the integration of a control system, from inception to the site acceptance tests with the client
Feedback from previous attendees

“I found the course very useful and interesting. It provided me an excellent opportunity to learn about process engineering. Specially, the activities in the EBRI’s power plant was fascinating and was great fun too!”.
FHEA, MRSC, AMIChemE

“I have looked at P&IDs before, I have visited plants before, but I have never used them both at the same time. This course was really enjoyable and incredibly useful. I learnt how to recognise equipment and instrumentation and learnt about the practical aspects related to plant services, electrical and control systems”.
SFHEA, AMIChemE, Committee member of EdSIG

Course dates (2020)

Day 1.
Practical introduction to process plant
January 20th

Day 2.
Mechanical systems
January 21st

Day 3.
Electrical systems
February 3rd

Day 4.
Control systems
February 4th

More information

> Registration: by December 20th
> Fee: £1950 (includes all printed training materials, lunch and refreshments)

There will be time for individual work as well as some open discussions for collaborative work.

Safety shoes, safety helmet and other protective equipment will be provided for the live demonstrations.

Location: Energy and Bioproducts Research Institute
Aston University Birmingham (UK)

Practical Process Engineering
Find out more:
Call us: 0121 204 5146
Email: M.Campos@aston.ac.uk