

Learning Topic: Technical (Plant Processes & Operations).

Course Name: Fluid Mechanics Basics

Reference Code: PLOP 106

Course Overview:

This course is one of the basic training courses for any operation staff member.

The study of fluids at rest and in movement is generally a complex subject. Most of the significant problems in fluid dynamics have been solved only recently, due to the advent of computers. But if the fluid velocities are not too high and "turbulence" is not too significant, a few simple principles (and the corresponding equations) can provide insights into the behavior of plumbing systems.

This course covers very basic and important concepts such as fluid static pressure, fluid density, fluid viscosity, fluid dynamic pressure, head, fluid velocity, differential pressure, friction losses, plumping systems, gas laws, hydraulic power, pneumatic power...etc.

The course outlines simplified versions of continuity equation, energy conservation equation, flow rate equation and their applications with examples.

Course Objectives:

Applying the concepts covered in this training course, delegates will be able to:

1. Understand fluid mechanics basics
2. Understand fluid statics
3. Understand fluid dynamics
4. Understand fluid flow patterns and governing equations
5. Understand gas law.
6. Understand fluid power and its applications

Training Methodologies:

The training methodology is interactive and is suitable for all employees involved in maintenance and operations management enhancing the following:

- Pre-test and Post-test
- Variety of Learning Methods & examples
- Presentation
- Lectures
- Exercises

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Who should attend?

Operation engineers

Operations technicians

Operators

Maintenance technicians

Any interested plant personnel in stores, warehouse, safety, procurement, logistics...etc.

Training Outline:

Day 1:

Course Introduction, Lesson 1: Fluid Mechanics Basics & Lesson 2: Fluid Statics

Day 2:

Lesson 2: Fluid Statics cont. & Lesson 3: Fluid Dynamics.

Day 3:

Lesson 4: States of Matter for Fluids & Lesson 5: Fluid Flow

Day 4:

Lesson 5: Fluid Flow cont.

Day 5:

Lesson 6: Fluid Power & Course Conclusion

Duration: 5 Days

Venue:

Numbers of hours: 30 Hours

Time: 08:00 AM -02:00 PM

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