Course Name: **Maintenance Scheduling Accurately Predict and Perform Maintenance When and Where Needed**

Reference Code: Gas 707

About the course:

This training course will feature:

Maintenance principles, downtimes and preventive maintenance applications,

Using Predictive Analytics to Optimize Asset Maintenance

Means and methods how to reduce/minimize/optimize asset life cycle costs

Big Data and IoT roles in maintenance planning and scheduling

Using Any Logic software for process design and predictive maintenance optimization

Advanced concepts: Aligning the industry needs with the workforce availability.

Course Objective:

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

1- Understand the importance of maintenance planning and scheduling
2- Understand the capabilities of Agent Based simulation
3- Acquire the knowledge of using AnyLogic software for maintenance planning and simulation
4- Import, analyze and interpret Big Data Through Predictive Analytics for Maintenance Optimization
5- Understand the benefits of IoT for automation of maintenance scheduling and downtime reduction.

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Who Should attend?.

Procurement Planners, Maintenance Planners, Asset Managers

Data Scientists and Data Analysts

Logistics and Supply Chain Planers

Other professionals involved in procurement, maintenance and operations of assets

Course Methodology:

This training course is designed to be a hands-on, stimulating experience. The training course is highly interactive with many discussion and practice sessions.

⬜ Relevant computer simulations and videos .

⬜ Copies of all presentation material.

⬜ Variety of Learning Methods.

⬜ Pre-test and final test.

⬜ Case Study

⬜ Training Groups.

⬜ Presentation.

⬜ Lectures

Course Outline:

Day One: Predictive Asset Maintenance

Reactive Maintenance

Maintenance Reliability

Contribution of Planning Coordination, and Scheduling

Symptoms of Ineffective Job Planning

Maintenance Deliverables

Exercise: Introduction to AnyLogic and AnyLogistix software

Day Two: Using Predictive Analytics in Maintenance Systems

Data management

Big Data Quality and sources

Dealing with large data sizes

IoT and adaptive maintenance: Integrated data collection

Uncertainty in implementation cost and Return on Investment

Exercise: Design the data collection and modeling and simulation tools

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Day Three: Maintenance Planning Principles

Work order system

Maintenance requirement forecasting

Traditional forecasting methods

Downtime planning and mitigation

Costs of poor planning

Ripple and Bullwhip effects on production originating from poor maintenance plans

Exercise: Improving maintenance process with AnyLogic agent-based modeling

Day Four: Spare Parts Procurement and Inventory Planning

Procurement for maintenance

Spare parts inventory and availability

Development of Work Programs and the Maintenance Calendar

Sizing the Maintenance Staff

Exercise: Defining and optimizing supply chain process of spare parts in Any Logistic

Day Five: Proactive Maintenance Planning

Detailed Planning of Individual Jobs

Materials Support

Work Measurement

Analytical Estimating

Coordination with Operations

Exercise: Job Feedback, Close Out, Analysis, and Schedule Compliance using agent-based modeling

Time: 08:00 AM -03:00 PM **Numbers of hours:** 35 Hours

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