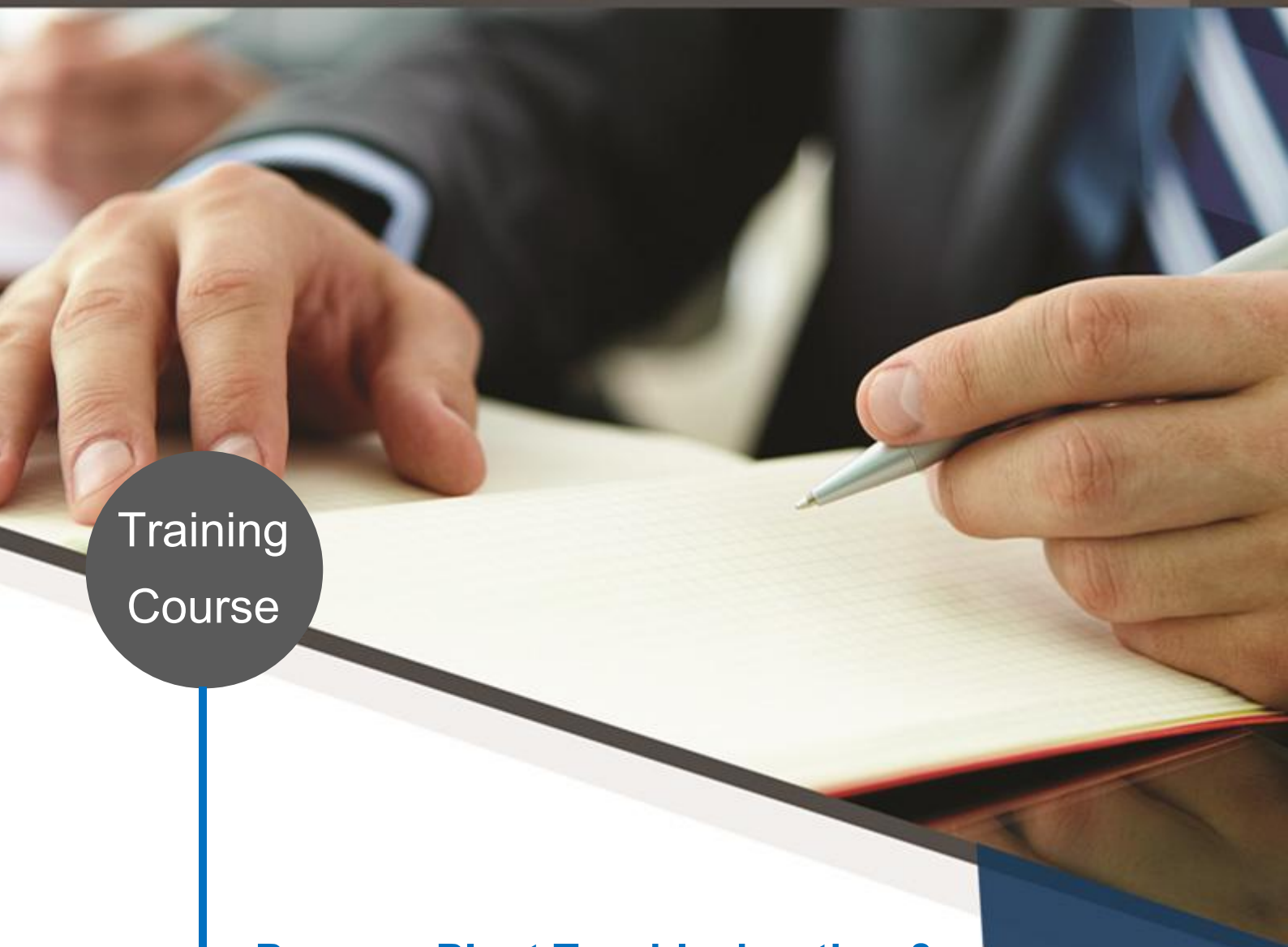
Skills International for Training & Consulting



Training Course

Process Plant Troubleshooting & Engineering Problem Solving

Skills International for Training & Consulting

سكلز الدولية للتدريب والإستشارات

Course Plan

Introduction

MModern process plants are complex systems where unexpected issues can arise at any time — from mechanical failures to process inefficiencies and safety risks. This course, “Process Plant Troubleshooting and Engineering Problem Solving”, is designed to equip engineers, operators, and technical personnel with a systematic approach to identifying, analyzing, and resolving problems in industrial environments.

The course combines engineering fundamentals, logical thinking, real-world case studies, and structured methodologies to enhance troubleshooting skills and foster effective problem-solving in high-pressure industrial settings. Modern process plants are complex systems where unexpected issues can arise at any time — from mechanical failures to process inefficiencies and safety risks. This course, “Process Plant Troubleshooting and Engineering Problem Solving”, is designed to equip engineers, operators, and technical personnel with a systematic approach to identifying, analyzing, and resolving problems in industrial environments.

Course Objectives:

- ✓ Understand the principles and importance of troubleshooting in process plants.
- ✓ Identify root causes of process problems using structured methodologies.
- ✓ Apply systematic approaches to solve engineering issues efficiently.
- ✓ Recognize common failures in mechanical, electrical, and control systems.
- ✓ Enhance decision-making under pressure using data and experience.
- ✓ Communicate findings and solutions effectively to stakeholders.
- ✓ Foster a proactive culture of continuous improvement and reliability.

Who Should Attend?

- Process engineers
- Operations engineers
- Maintenance engineers and supervisors
- Plant operators and technicians
- Technical support and reliability teams
- Chemical, mechanical, and electrical engineers
- Engineering students or trainees in industrial disciplines
- Health, safety & environment (HSE) professionals with technical roles

Training Methods:

- ✓ Online Video material.
- ✓ Presentation.
- ✓ Live Interactive sessions.
- ✓ Course presenter will make extensive use of all tools that will be needed for the virtual environment.
- ✓ Questions & Answers

Course Outline:

Day One

- Introduction to Process Plant Troubleshooting
- Understanding Process Flow Diagrams (PFDs) and P&IDs
- Identifying Symptoms vs. Root Causes
- Troubleshooting Tools and Techniques
- Root Cause Analysis (RCA) Methods (5 Whys, Fishbone, etc.)

Day Two

- Data Collection and Interpretation
- Understanding Normal vs. Abnormal Operating Conditions
- Troubleshooting Pumps, Compressors, and Rotating Equipment
- Heat Exchanger Problems and Fouling Issues
- Control System Troubleshooting (Sensors, PLCs, Loops)

Day Three

- Instrument Calibration and Fault Diagnosis
- Valves and Actuator Issues in Process Systems
- Process Upsets: Detection and Recovery Techniques
- Distillation Column Troubleshooting
- Reactors and Chemical Process Issues

Day Four

- Utility System Troubleshooting (Steam, Air, Water)
- Electrical Faults in Industrial Settings
- Startup and Shutdown Problem Management
- Safety System Troubleshooting (Alarms, Interlocks, ESD)
- Human Factors and Operator Errors in Problem Solving

Day Five

- Emergency Troubleshooting Under Time Pressure
- Team-Based Problem Solving and Communication
- Troubleshooting Case Studies from Real Plants
- Proactive Troubleshooting and Preventive Strategies
- Developing a Troubleshooting Mindset and Culture

Training Details

Course Duration	5 Days
Pre-Schedule	2 – 6 November 2025
Venue	Dubai – The H Hotel
Training Fees Per Person	KWD 1250 (One Thousand Two Hundred Fifty Only)
Course Fees Include	✓ Tuition documentation ✓ Curriculum and Training Handout ✓ Five star Lunch ✓ Completion Certificates ✓ Lunch Included