

COURSE OVERVIEW RE0045-4D
Material Cataloguing, Specifications, Handling & Storage

Course Title

Material Cataloguing, Specifications, Handling & Storage

Course Date/Venue

October 14-17, 2024/Liwan Meeting Room, Crowne Plaza Al Khobar, Al Khobar, KSA

Course Reference

RE0045-4D

Course Duration/Credits

Four days/2.4 CEUs/24 PDHs



Course Description



This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

Proper materials management techniques are critical to the success of any organization as they are key components in determining the success of a company. These techniques invoke fiscal responsibility in the management of funds, thereby ensuring the company receives full value and benefit for the dollars they spend. The techniques also provide the overall direction to purchasing, production, inventory, control and traffic.



This course is designed to provide participants with an up-to-date knowledge and skills on material cataloguing, specifications, handling and storage. It covers the material basics that includes the detailed engineering specifications, brand name specifications and commercial standards; inventory basics for stock activity graphs, economic order quantity (EOQ), dual re-order points and inventory automation examples; inventory control; spare parts lists and spare optimization; and the equipment spares.



At the completion of the course, participants will be able to apply spares demand planning for equipment reliability and supply chain management; employ storeroom procedures, material cataloguing and bar coding; carryout proper techniques from bar coding to smart labelling (RFID), label certification, encoding, printing and validating smart labels; recognize RFID architecture, RFID tags and computerized inventory management systems; explain engineering materials; and apply material specifications, preservation, packaging and storage for bearings, belts, couplings, gaskets, seals, roller chains and sprockets, valves, pipelines, pipings, fittings, flanges, bolts, nuts and blinds.

Course Objectives

Upon the successful completion of this course, you will be able to:-

- Apply and gain systematic techniques on material cataloguing specifications, handling and storage
- Review, analyse and classify the stock (inventory) line items for its adequacy and completeness of specification, catalogue group, validity, compliance and its linkage of the user's requirement
- Gather and assemble data of non-stock materials (direct purchase materials) from various user divisions/departments
- Classify and assign appropriate product group and to integrate with master product catalogue
- Develop unique product/catalogue identification code/part identifications for all products and services in line with international accepted cataloguing system and procedure to ensure technical and commercial integrity of the product and equipment
- Use Configuration Management Systems
- Appraise standard technical specification, acceptable quality standards and in compliance with global health, safety, environment and quality management systems
- Assign storage and handle procedure based on the manufacturer's guidelines
- Discuss material basics covering the detailed engineering specifications, brand name specifications, commercial standards, etc.
- Interpret inventory basics that includes stock activity graphs, economic order quantity (EOQ), dual re-order points, inventory automation examples, etc.
- Implement inventory control comprising of perpetual inventory, variations on the perpetual, inventory method, cycle counts, annual inventory and controlling the value in the storeroom
- Describe spare parts lists and spare optimization
- Identify the equipment spares and apply spares demand planning for equipment reliability and supply chain management
- Employ storeroom procedures, material cataloguing and bar coding
- Carryout proper techniques from bar coding to smart labelling (RFID), label certification, encoding, printing and validating smart labels
- Recognize RFID architecture, RFID tags and computerized inventory management systems
- Explain engineering materials including iron and steel, alloy steels, cast iron, copper and its alloys, aluminum and its alloys, other non-ferrous metals and alloys, plastic materials and rubbers, ceramics, glasses, composite materials and fibre-reinforced composite materials
- Apply material specifications, preservation, packaging and storage for bearings, belts, couplings, gaskets, seals, roller chains and sprockets, valves, pipelines, pipings, fittings, flanges, bolts, nuts and blinds
- Discuss the concept of configuration management and its importance to manage and control configuration in AS&D
- Define the applicable terms and recognize the objectives of configuration management and the benefits for an enterprise gained through application of CM
- Identify the CM and documents control in 9100:2009, the configuration continuum, functions, engineering change and tools

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Haward Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.

Who Should Attend

This course provides an overview of all significant aspects and considerations of material cataloguing, specifications, handling and storage for maintenance, materials and project staff including project managers, maintenance managers, material managers, material engineers, maintenance engineers, planning engineers, MAXIMO engineers, CMMS engineers, planners, project engineers, plant engineers, material officers, senior buyers, purchasing managers, storeroom managers, store keepers, inventory control staff, CMMS professionals, maintenance planners, maintenance supervisors, IT professionals, operations managers, and manufacturing managers.

Course Fee

US\$ 4,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Practical Workshops & Work Presentations
- 30% Hands-on Practical Exercises & Case Studies
- 20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -


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The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology’s courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units (CEUs)** in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **2.4 CEUs** (Continuing Education Units) or **24 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant’s involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant’s CEU and PDH Transcript of Records upon request.

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British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Mr. Andrew Ladwig is a **Senior Process & Mechanical Engineer** with over **25 years** of extensive experience within the **Oil & Gas, Refinery, Petrochemical & Power** industries. His expertise widely covers in the areas of **Ammonia Manufacturing & Process Troubleshooting, Distillation Towers, Crude Oil Distillation, Fundamentals of Distillation** for Engineers, **Distillation Operation and Troubleshooting, Advanced Distillation Troubleshooting, Distillation Technology, Vacuum Distillation, Ammonia Storage & Loading Systems, Ammonia Plant Operation, Troubleshooting & Optimization, Ammonia Recovery, Ammonia Plant Safety, Hazard of Ammonia Handling, Storage & Shipping, Operational Excellence in Ammonia Plants, Fertilizer Storage Management (Ammonia & Urea), Fertilizer Manufacturing Process Technology, Sulphur Recovery, Phenol Recovery & Extraction, Wax Sweating & Blending, Petrochemical & Fertilizer Plants, Nitrogen Fertilizer Production, Petroleum Industry Process Engineering, Refining Process & Petroleum Products, Refinery Planning & Economics, Safe Refinery Operations, Hydrotreating & Hydro-processing, Separators in Oil & Gas Industry, Gas Testing & Energy Isolations, Gas Liquor Separation, Industrial Liquid Mixing, Wax Bleachers, Extractors, Fractionation, Operation & Control of Distillation, Process of Crude ATM & Vacuum Distillation Unit, Water Purification, Water Transport & Distribution, Steam & Electricity, Flame Arrestors, Coal Processing, Environmental Emission Control, R&D of Wax Blending, Wax Molding/Slabbing, Industrial Drying, Principles, Selection & Design, Process Safety Design, Certified Process Plant Operations, Control & Troubleshooting, Operator Responsibilities, Storage Tanks Operations & Measurements, Tank Design, Construction, Inspection & Maintenance, Atmospheric Tanks, Process Plant Troubleshooting & Engineering Problem Solving, Process Plant Performance, Efficiency & Optimization, Continuous Improvement & Benchmarking, Process Troubleshooting Techniques, Oil & Gas Operation/Introduction to Surface Facilities, Pressure Vessel Operation, Plant & Equipment Integrity, Process Equipment Performance & Troubleshooting, Plant Startup & Shutdown, Startup & Shutdown the Plant While Handling Abnormal Conditions, Flare & Relief System, Process Gas Plant Start-up, Commissioning & Problem Solving, Process Liquid and Process Handling & Measuring Equipment. Further, he is also well-versed in **Compressors & Turbines** Operation, Maintenance & Troubleshooting, **Heat Exchanger Overhaul & Testing Techniques, Balancing of Rotating Machinery (BRM), Pipe Stress Analysis, Valves & Actuators** Technology, Inspect & Maintain **Safeguarding Vent & Relief System**, Certified Inspectors for **Vehicle & Equipment**, Optimizing **Equipment Maintenance & Replacement Decisions**, Certified Maintenance Planner (**CMP**), Certified Planning and Scheduling Professional (**AACE-PSP**), **Material Cataloguing**, Specifications, Handling & Storage, **Steam Trap Design, Operation, Maintenance & Troubleshooting, Steam Trapping & Control, Column, Pump Technology, Pump Selection & Installation, Centrifugal Pumps Troubleshooting, Pumps Design, Selection & Operation, Pump & Exchangers, Troubleshooting & Design, Rotating Equipment Operation & Troubleshooting, Control & ESD System, Detailed Engineering Drawings, Codes & Standards, Budget Preparation, Allocation & Cost Control, Root Cause Analysis (RCA), Production Optimization, Permit to Work (PTW), Project Engineering, Data Analysis, Process Hazard Analysis (PHA), HAZOP Study, Sampling & Analysis, Training Analysis, Job Analysis Techniques, Storage & Handling of Toxic Chemicals & Hazardous Materials, Hazardous Material Classification & Storage/Disposal, Dangerous Goods, Environmental Management System (EMS), Supply Chain, Purchasing, Procurement, Logistics Management & Transport & Warehousing & Inventory, Risk Monitoring Authorized Gas Tester (AGT), Confined Space Entry (CSE), Personal Protective Equipment (PPE), Fire & Gas, First Aid and Occupational Health & Safety.****

During his career life, Mr. Ladwig has gained his practical experience through his various significant positions and dedication as the **Mechanical Engineer, Project Engineer, Reliability & Maintenance Engineer, Maintenance Support Engineer, Process Engineer, HSE Supervisor, Warehouse Manager, Quality Manager, Business Analyst, Senior Process Controller, Process Controller, Safety Officer, Mechanical Technician, Senior Lecturer** and **Senior Consultant/Trainer** for various companies such as the Sasol Ltd., Sasol Wax, Sasol Synfuels, just to name a few.

Mr. Ladwig has a **Bachelor's** degree in **Chemical Engineering** and a **Diploma in Mechanical Engineering**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)** and has delivered various trainings, workshops, seminars, courses and conferences internationally.



Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: Monday, 14th of October 2024

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Material Basics Detailed Engineering Specifications • Brand Name Specifications • Commercial Standards • Purchase Materials in the Proper Quantity • Receive Materials at the Optimum Time • MRO Control Goals • Supervising Storeroom Benefits and Justifications
0930 – 0945	Break
0945 – 1100	Inventory Basics Stock Activity Graphs • Economic Order Quantity (EOQ) • Dual Re-order Points • Inventory Automation Examples • Open or Closed Storeroom • Physical Storage • Return to Stores
1100 – 1230	Inventory Control Perpetual Inventory • Variations on the Perpetual • Inventory Method • Cycle Counts • Annual Inventory • Controlling the Value in the Storeroom
1230 – 1245	Break
1245 – 1420	Spare Parts Lists Plant Hierarchy • Preparation and Maintenance of Part Lists • Parts List Standard
1420 – 1430	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow
1430	Lunch & End of Day One

Day 2: Tuesday, 15th of October 2024

0730 – 0930	Spare Optimization Stock Level Establishment • Min-Max Stocks • Lead Time Delivery
0930 – 0945	Break
0945 – 1100	Equipment Spares Identification Equipment Types • Spares Identification • Stock Level • Equipment Criticality
1100 – 1230	Spares Demand Planning Equipment Reliability • Spares Demand Planning • Supply Chain Management
1230 – 1245	Break
1245 – 1420	Storeroom Procedures Primary ID • Store Stock Catalog • Part Descriptions • Adequate Information on every Potential Item • Store Stock Numbering • Everything Identified All
1420 – 1430	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow
1430	Lunch & End of Day Two





Day 3: Wednesday, 16th of October 2024

0730 – 0930	Material Cataloguing Describing the Part • Other Uses of the Description • A Case for Descriptive Item Numbers • Hierarchical Systems • Stock Index for ID • Inventory Classification • Location Codes • Stock Number of Bin Location • Bill of Materials (BOM) • Consignment Inventory • Rebuilt Parts • Used Parts
0930 – 0945	Break
0945 – 1100	Bar Coding Bar Code Readers • Bar Code Systems • Bar Code Printing • Moving to Bar Codes • Bar Code Support Suppliers
1100 – 1230	From Bar Codes to Smart Labels (RFID) Label Certification • Encoding, Printing and Validating Smart Labels • Readers and Printers • Building Blocks of an RFID Reader • Logical Components of an RFID Reader • Building Blocks of RFID Printers • Types of Readers • Trends and Possibilities
1230 – 1245	Break
1245 – 1420	RFID Architecture Key Building Blocks and Functionalities • Faraday's Magnetic Field Induction Experiment • What Constitutes an RFID System? • RFID System Components • Systemic Quality Considerations • Architecture and System Guidelines • System Management
1420 – 1430	Recap Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow
1430	Lunch & End of Day Three

Day 4: Thursday, 17th of October 2024

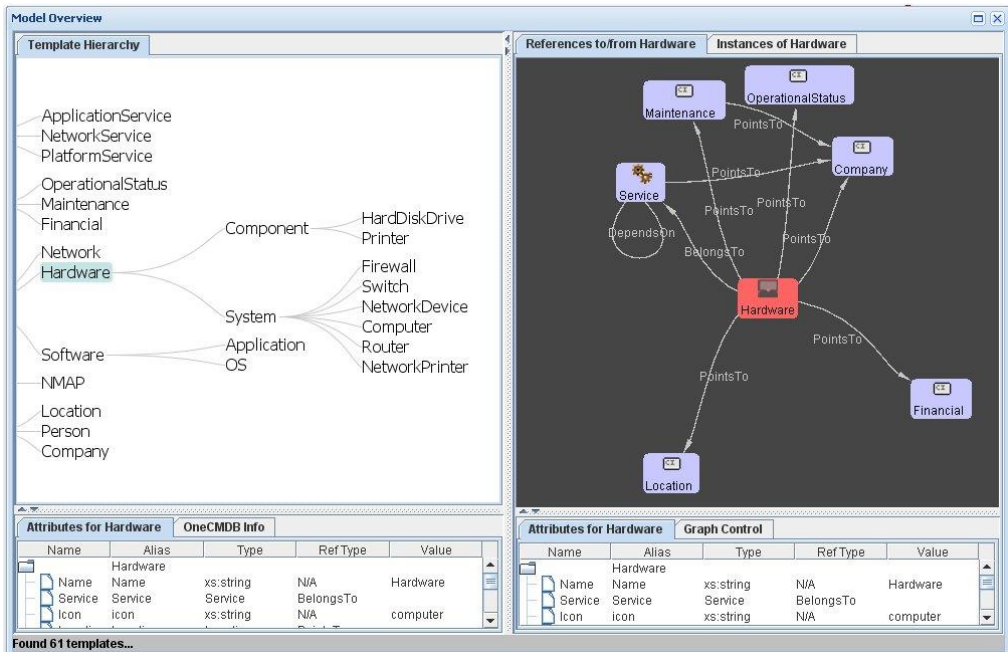
0730 – 0830	RFID Tags Tag Types (Active and Passive Tags) • Data Carrying Options • Tag Construction • Tag Frequencies • Passive Tag Communication • dEPC Tag Classes • Tag Singulation Process • Tag Selection and Placement
0830 – 0930	Computerized Inventory Management Systems Building Blocks • Canned Report Generator • Ad-Hoc Report Generator • Data Mining Tools • Report Mining Tools
0930 – 0945	Break
0945 – 1100	Engineering Materials Overview Iron and Steel • Alloy Steels • Cast Iron • Copper and its Alloys • Aluminum and its Alloys • Other Non-ferrous Metals and Alloys • Plastic Materials and Rubbers • Ceramics • Glasses • Composite Materials • Fibre-reinforced Composite Materials
1100 – 1230	Material Specifications, Preservation, Packaging & Storage Bearings • Belts • Couplings • Gaskets • Seals • Roller Chains and Sprockets • Valves • Pipelines • Piping • Fittings • Flanges • Bolts • Nuts • Blinds
1230 – 1245	Break
1245 – 1345	Configuration Management What is Configuration? • Why it is Important to Manage & Control Configuration in AS&D • Applicable Terms & Definitions • The Objectives of Configuration Management • Benefits for an Enterprise Gained Through Application of CM • CM & Documents Control in 9100:2009 • The Configuration Continuum • CM Functions • CM vs. Engineering Change • CM Tools



1345 – 1400	Course Conclusion Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course
1400 – 1415	POST-TEST
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course

Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the “ITIL CMDB Configuration Management System”.



The screenshot displays the ITIL CMDB Configuration Management System interface. It features a 'Model Overview' window with a 'Template Hierarchy' on the left, listing categories like ApplicationService, NetworkService, PlatformService, OperationalStatus, Maintenance, Financial, Network, Hardware, Software, NMAP, Location, Person, and Company. The 'Hardware' category is expanded to show sub-categories: Component (HardDiskDrive, Printer), System (Firewall, Switch, NetworkDevice, Computer, Router, NetworkPrinter), Application, and OS. Below the hierarchy are two 'Attributes for Hardware' tables. The right side of the interface shows a graph titled 'References to/from Hardware' and 'Instances of Hardware', illustrating relationships between entities like Maintenance, OperationalStatus, Service, Company, Hardware, Location, and Financial. Relationships are labeled with terms like 'PointsTo', 'BelongsTo', and 'DependsOn'.

ITIL CMDB Configuration Management System

Course Coordinator

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