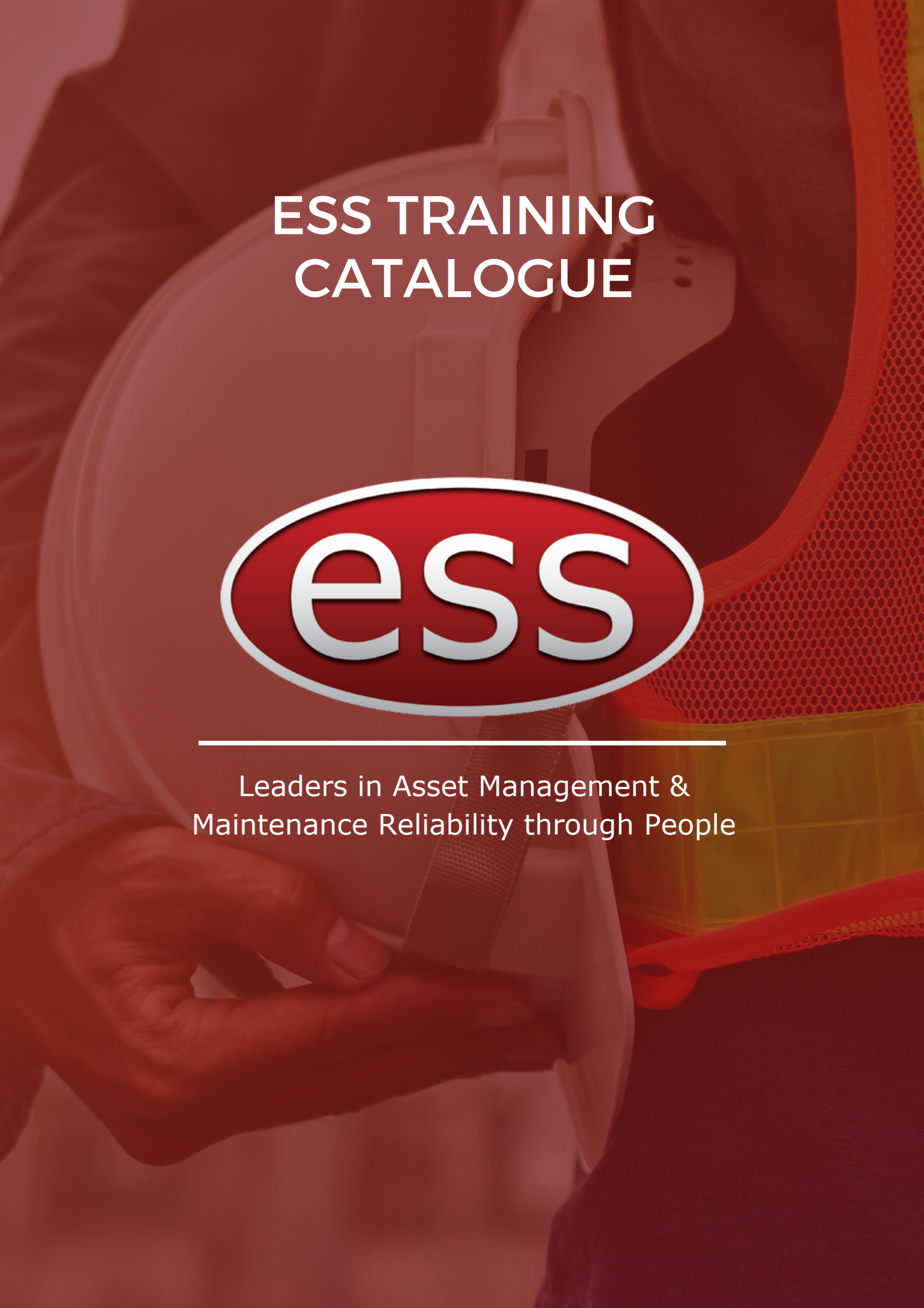
ESS TRAINING CATALOGUE



Leaders in Asset Management &
Maintenance Reliability through People

ESS TRAINING

Build competence and capability

We're a specialist provider of Asset Management, Maintenance and Reliability Excellence and Technical Training that support organisations through education and training. Our courses afford companies and learners alike the opportunity to upskill, develop their people, maintain compliance, drive efficiency, sustainability, and continuous improvement.

Our training is a culmination and a merging of proven academia philosophies and principles with practical, hands-on experience from the ESS team of SME's. We strongly believe the partnership of academia and seasoned practitioners, is a unique value-added service we offer to all clients and results in improvements that are immediate, valuable, and sustainable.

Public Courses

In-House Training

Accredited Courses

QQI

Quality Assured System ISO 9001 BQAI

Health & Safety Assured System ISO 45001 BQAI

IAM endorsed TRAINER

IAM endorsed ASSESSOR

Engineers Ireland MEETA Asset Management

Engineers Ireland Registered Training Provider 2023

TABLE OF CONTENTS

Asset Management Training

Maintenance & Reliability Excellence

Technical Courses

ASSET MANAGEMENT TRAINING

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Address : 4 Shelbourne Road, Limerick, Ireland
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Website: www.essltd.ie

IAM Certificate In Asset Management

Course Description

The course provides an intensive coverage of the principles and practice of Asset Management. The content is aligned to PAS 55, ISO 55000 and to the Institute of Asset Management (IAM) competency framework, with a view to preparing students to pass the IAM Certificate in Asset Management examination. It is suited to experienced practitioners with industrial or infrastructure asset management responsibilities, who can relate concepts to their work environment.

Modules

- The Principles of Asset Management
- Asset Management Policy, Strategy and Planning
- Managing Asset Life Cycle Decisions and Activities
- Assessing and Managing Asset Management Risks
- The Financial and Business Impact of Asset Management

Learning Objectives

- ✓ The participant will develop a business-centred appreciation of Asset Management and will be better able to influence decisions which have AM implications
- ✓ The course is deliberately cross-disciplinary and should help to foster effective team-working and break down disciplinary silos
- ✓ The participant will be equipped to pass the IAM Certificate Examination

Target Learner

Participants from organisations where the reliability, performance and attendant risks of fixed assets have a significant impact on business performance will benefit most from this course.

Certification

Students will be equipped to pass the Institute of Asset Management Certificate.

IAM Diploma In Asset Management

Course Description

This deep-dive course provides intensive coverage of the principles and practices of Asset Management for those seeking the IAM Diploma qualification in Asset Management. The curriculum covers all the required modules of the Diploma and is also aligned with asset management standards (PAS 55, ISO 55000) and the GFMAM Asset Management 'Landscape'.

Course Contents

- Principles of Asset Management
- Asset Management Policy, Strategy & Planning
- Managing Asset Life Cycle Decisions and Activities
- Assessing and Managing Asset Management Risks
- Financial and Business Impact
- Practices of Asset Management
- Asset Management Information and Knowledge
- Sustainable Asset Care and Performance Management
- Managing Change in Asset Management Systems and Capabilities
- Contractor and Supplier Management
- Demand Forecasting and Capital Expenditure Planning
- Methods for Realising Whole Live Value from Assets

Learning Objectives

- ✓ Contribute to the development and implementation of AM policy, strategy, objectives and plans
- ✓ Participate in asset-related risk identification, analysis and management processes and contingency planning
- ✓ Understand the asset life cycle, value realisation and the role of appropriate tools to optimise the performance, risk and cost of assets

Target Learner

Experienced professionals from many functions within asset-intensive organisations, where the performance of physical assets has a significant impact on organisational performance.

Certification

Students will be equipped to pass the Institute of Asset Management Diploma.

IAM Foundation In Asset Management

Course Description

In this one-day introductory workshop you will learn about the important features of asset management and a variety of good practices which will benefit your business. The day will be a mixture of presentations, case studies and workshop sessions. Asset Management standards BSI PAS 55:2008 and ISO 55000:2014 will be introduced and discussed.

Course Contents

- What is Asset Management, why is it important?
- The main features of asset management
- The development of the asset management specifications PAS55 & ISO 55000
- Assessment Methodology including practical exercises
- Case studies: How different industries carry out their asset management
- ISO55000 standard on Asset Management
- International Qualifications now available in Asset Management

Learning Objectives

- ✓ Basic asset management concepts, principles and terminology
- ✓ Characteristics of good practice asset management
- ✓ IAM resources to support the Individual and Organisational Journeys

Target Learner

An entry level course for people who want to understand Asset Management and what it can do for them, along with an introduction to the ISO standard ISO 55001.

Certification

Participants who successfully complete the Knowledge Test will be eligible for the IAM Foundation Award.

MAINTENANCE & RELIABILITY EXCELLENCE

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Website: www.essltd.ie

Failure Modes Effects and Criticality Analysis

Overview

Failure Modes Effects and Criticality Analysis (FMECA), is a technique which allows the most appropriate maintenance tasks to be selected for equipment. It is a rigorous technique originally developed for the Nuclear Industry in the 1960s but since that time it has also been applied successfully to a wide range of industries. It is particularly useful for heavily-regulated environments such as pharmaceuticals, oil and gas, and airlines. It is also very important for organisations who wish to move toward a leaner approach to manufacturing.

Course Contents

- How to Decide on the Best Type of Maintenance
- How to Apply FMECA Cost-Effectively

Learning Objectives

- ✓ To understand the reasons why equipment fails and the different ways in which it can fail
- ✓ To be able to select the most appropriate maintenance task for the equipment in question
- ✓ To gain a basic understanding of FMECA, where it should be applied, and how to put it to use cost-effectively

Target Learner

Technicians, Operators, Shift Leaders, Planners, Supervisors, Managers and Supply Chain personnel.

Certification

A Certificate of Completion is awarded at the end of the course.

Leadership & Management Skills, Your Technical Team

Overview

In today's competitive working environment, understanding and dealing with the ever-changing needs of people working within organisations and indeed the needs of the organisations themselves, is paramount to the effectiveness of the Maintenance Team Leader. Managing Technical people as individuals and in a team environment to help achieve organisational goals can be a difficult role which requires a comprehensive & specialised set of skills.

Modules

- The Role of the Maintenance Team Leader
- Understanding People and resolving conflict
- Leadership Styles
- Coaching for Success
- Making the most effective use of your time
- Managing change within the Maintenance Function
- Effective Communication
- Employment Legislation
- Building and motivating a team
- Customer Satisfaction

Learning Objectives

✓ Extensive knowledge in the Best Practice approach to Maintenance Team Leadership

✓ A better understanding for the need to continuously develop the individuals within the team as well as their own management skills. This will lead to increased efficiency and effectiveness within their own maintenance function and therefore add overall value to the organisation

Target Learner

Any maintenance practitioner who has responsibility for leading people within their organisation. The course is also highly beneficial for those recently appointed to a Maintenance Leadership position and who require knowledge on people management best practice methodologies.

Certification

A Certificate of Completion is awarded at the end of the course.

Lean Maintenance

Overview

Total Productive Maintenance (TPM) is often the first place to begin the journey towards Lean Transformation because it creates a manufacturing environment of stability, reliability, and capability. A stable infrastructure is a critical foundation that must be built before more tightly coupled Lean practices can be successfully introduced and more importantly sustained.

Course Contents

- The History and Evolution of Maintenance in the Context of Lean Management
- The 5 Pillars of TPM (Continuous Improvement in OEE, Maintenance Asset Care, Operator Asset Care {Autonomous Maintenance}, Skills Development, and Early Equipment Management)
- The 4 Core TPM Metrics for the Attainment of Flow
- Current State Diagnostic Audit Exercise
- FMEA to Mitigate the 80/20 Breakdown Risks and Exercise
- Predictive Maintenance – Methods of Predicting Time between Equipment Failures
- Cultural Considerations and Team Working
- 5S Workplace Organisation and Impact on TPM (the surprising root cause of 40% of equipment breakdowns)
- Quick Changeover and TPM
- Continuous Maintenance Improvement Visual Management System
- TPM Implementation Roadmap Exercise

Target Learner

This introductory course is designed for frontline employees, maintenance and production supervisors, and managers interested in deploying TPM.

Certification

A Certificate of Completion is awarded at the end of the course.

Lean Management: Continuous Improvement Fundamentals

Overview

Lean Management is the strategy for Operational Excellence based on clearly defined values to engage people in continuously improving safety, morale, quality, cost, and productivity.
This course covers Lean from both a manufacturing and service perspective.

Course Contents

- Introduction to Lean Management and the Business Case for Change
- Operational Waste and Exercise
- Core Lean Diagnostic Techniques and Exercises
- Kano Model and Exercise
- Mapping: Value Stream, Process and Exercise
- Proven Lean Roadmap
- 5S & Simulation Game
- Visual Management
- SMED
- Error Proofing
- Standard Work
- Kaizen Events
- Employee Idea Capture System
- Seven Basic Quality Tools

Target Learner

This course is designed for frontline employees, team leaders, and managers interested in deploying Lean.

Certification

A Certificate of Completion is awarded at the end of the course.

Maintenance and Reliability Best Practices

Overview

In the execution of direct maintenance work, the primary interface is that between (i) the asset, and (ii) the maintenance practitioner.
Most of the practitioner's training is directed towards this work space (e.g. technical skills, EHS, Quality), but now a significant gap is emerging.
This work is defined in terms of Where/What/When/How and Who, but we don't treat the WHY?

Course Content

- Strategic importance of reliability & maintenance
- Reliability, maintainability
- The nature of failure
- Equipment criticality
- Principles of preventive and predictive maintenance
- Common and developing methods used for predictive maintenance
- Deciding the frequency of maintenance & inspection tasks
- The importance of planning & scheduling
- Maintaining reliability
- Data collection, management and analysis

Learning Objectives

✓ The 2-day course presents current best practice and will enable attendees to understand the context of Maintenance and Reliability within the wider operational and business environment

✓ Maintenance and Reliability Best Practices addresses this gap by enabling a fuller understanding of the Maintenance and Reliability function within the business

✓ For example, Why are PM routines useless for random failures?; Why is the recommended maintenance not effective for certain assets; Why are parameters of condition so important?

Target Learner

This course is directed towards engineering practitioners working in, or towards the maintenance arena.

Certification

A Certificate of Completion is awarded at the end of the course.

Maintenance Planning and Scheduling

Overview

A key component of the overall cost of manufacturing is maintenance and the key role of maintenance is to deliver availability and reliability of the plant. Production is planned and scheduled and to optimise costs and non-productive time, maintenance too must be planned, scheduled and (key) integrated with the production schedule. Cost effective maintenance delivery is the result of effective planning, scheduling and associated work controls.

Course Contents

- Introduction – What is planning and scheduling?
- Typical Maintenance structures and organisations and the parts planning, scheduling and work controls play.
- Work Controls – data capture, Asset registers, Functional locations, additional equipment information needed by planners
- Practical workflows and their control
- Life cycle plans and Logistic Support
- Understanding failure and what planned maintenance can and cannot do
- The sources of planned work
- Planned Maintenance routines; compilation, formats, usage and information management
- Estimating workload
- Defining Customer requirements, Scheduling planned work, Meeting Customer needs
- Scheduling – getting the Planned Work Done, Maintenance Management Systems, Long and short term forecasts, Opportunity maintenance
- Planning and scheduling exercise
- Continuous Improvement in planning and scheduling, performance metrics.

Target Learner

Maintenance professionals, personnel from functions that rely on effective maintenance planning, scheduling and work control.

Certification

A Certificate of Completion is awarded at the end of the course.

Maintenance & Reliability Excellence

Best Practices for Managers, Engineers, Team Leads & Supervisors

Overview

This course provides extensive knowledge of best practices in the areas of maintenance, reliability and asset management and equips participants with the information required to apply these techniques effectively. Attendees will understand the context of Maintenance and Reliability within the wider operational and business environment and become empowered to implement improvements to help organisations achieve and sustain maintenance excellence.

Modules

- Asset Management and Reliability
- Maintenance Work, Planning & Scheduling
- Maintenance Management

Course Content

Module 1: Asset Management and Reliability

- Understanding Failure
- Understanding Reliability
- Managing Reliability
- Strategic Maintenance
- Asset Care strategies
  - Preventive, Predictive and Proactive
  - Selecting Care strategies and maintenance tasks
  - Strategic tools (FMEcA, RCA, CMMS)
- Overview of Asset Management

Maintenance & Reliability Excellence

Best Practices for Managers, Engineers, Team Leads & Supervisors

Module 2: Maintenance Work, Planning & Scheduling

- CMMS - Building an Asset Structure
- Controlling Work
- Work Planning, Scheduling & Executing
- Safe Systems of Work
- Materials Management & Stores
- Supplier & Contractor Management
- Maintenance is Kaizen (Lean Maintenance, TPM: Total Productive Maintenance, Kaizen)

Module 3: Maintenance Management

- People
- Skills/Competencies, Development & Training
- Knowledge Management & Change Management
- People/HR/performance/soft skills
- Developing the organisation (structure)
- Financial Management and Budgeting incl. Life Cycle costing
- Process Reliability Toolbox
  - Lean Manufacturing
  - Overall Equipment Effectiveness
- Maintenance KPIs
- Continuous Improvement

Target Learner

Maintenance Managers, Engineers, Team Leads and Supervisors, Production & Reliability Managers and Engineers.

Certification

A Certificate of Completion is awarded at the end of the course.

Reliability Centered Maintenance

Overview

Reliability Centered Maintenance was developed in arguably the most demanding maintenance environment of all – Civil Aviation. It has been used extensively in that industry for decades and has helped deliver dramatically improved safety and reliability, and at the same time reduced costs. The RCM process itself can be applied to any asset or process in any industry, and companies worldwide, in a wide range of industries that face similar challenges, have benefitted from applying it to their assets.

Course Contents

- The Operating Context
- Functions and performance standards
- The Failed State – Functional Failures
- The Evaluation of Failure Consequences
- Proactive Maintenance Tasks
- Implementing and applying RCM
- Failure modes
- Failure Effects

Learning Objectives

- ✓ Why reliability is not just about maintenance
- ✓ How RCM deals with failures that are caused by factors that maintenance cannot address, such as human factors, design shortcomings and operations and maintenance practices and procedures
- ✓ How to determine which assets and processes to apply RCM to and capture information for RCM analysis

Target Learner

Personnel with responsibility for effective and efficient management of physical assets and processes including Managers, Superintendents, Specialists and Leaders.

Certification

A Certificate of Completion is awarded at the end of the course.

Reliability Centered Maintenance for Pharma

Overview

Reliability Centered Maintenance was developed in arguably the most demanding maintenance environment of all – Civil Aviation. It has been used extensively in that industry for decades and has helped deliver dramatically improved safety and reliability, and at the same time reduced costs. The RCM process itself can be applied to any asset or process in any industry, and companies worldwide, in a wide range of industries that face similar challenges, have benefitted from applying it to their assets.

Course Contents

- The Operating Context
- Functions and performance standards
- The Failed State – Functional Failures
- The Evaluation of Failure Consequences
- Proactive Maintenance Tasks
- Implementing and applying RCM
- Failure modes
- Failure Effects

Learning Objectives

- ✓ Why reliability is not just about maintenance
- ✓ How RCM deals with failures that are caused by factors that maintenance cannot address, such as human factors, design shortcomings and operations and maintenance practices and procedures
- ✓ How to determine which assets and processes to apply RCM to and capture information for RCM analysis

Target Learner

Personnel with responsibility for effective and efficient management of physical assets and processes including Managers, Superintendents, Specialists and Leaders.

Certification

A Certificate of Completion is awarded at the end of the course.

Reliability Excellence Fundamentals

Overview

In Manufacturing and Utilities, the aims of the Reliability function are to (i) eliminate/reduce the occurrence of failures, (ii) mitigate the impacts of the failures we cannot eliminate, and (iii) manage the asset lifecycle. Many companies may not have a significant or dedicated Reliability resource, and so Reliability tends to be a sub-function of the Maintenance function. Much of the maintenance resource is applied to direct work on individual assets, and the training needs often do not prioritise specific training on Reliability fundamentals.

Course Content

- The Nature of Failure
- Reliability Fundamentals- measurement, analysis and reliability growth
- Reliability Management - proactive reliability, reactive reliability and reliability control

Learning Objectives

✓ The 1-day course treats Failure, Reliability modelling and Reliability Management, and will enable attendees to understand why and how Reliability makes a significant contribution to a successful enterprise

Target Learner

This course is directed towards engineering practitioners working in, or towards the maintenance arena.

Certification

A Certificate of Completion is awarded at the end of the course.

Reliability Improvement Certificate

Overview

In this 2-day course, participants are guided through the major factors that must be considered in order to assess and improve the reliability of all types of equipment whether it is static, rotating, electrical distribution, computer, instruments or control. All technical and human aspects are fully considered in all stages of the life of equipment such as new design, commissioning, operation, maintenance, life extension and finally de-commissioning. It has been designed to illustrate fundamental reliability concepts and vital tools without getting drawn into complex mathematics.

Modules

- Models of reliability
- Relationship between Reliability, safety and quality
- The reliability function in the organisation
- Reliability in product & process development
- Reliability Program Management
- Reliability and Risk Assessment
- Maintaining Reliability
- Non-destructive evaluation

Target Learner

Engineering and maintenance managers. Reliability engineers, project managers, asset managers, and operations managers.

Certification

A Certificate of Completion is awarded at the end of the course.

Progression

Following on from the Reliability Improvement Certificate, we offer a unique 12-month Reliability Diploma, this mentored course offers advice, guidance and suggestions about the reliability improvement plans which candidates produce themselves post the Certificate Training and Assignment.
We will offer two streams to achieve the Diploma, depending on your circumstance.

ROOT CAUSE ANALYSIS: Treating Failure with Success

Overview

Good Root Cause Analysis is the single, most direct way to eliminate failures, thus reducing failure rate, improving availability, increasing productivity and reducing costs. Many organisations recognise that their failure rates are excessive but deal with them urgently, consuming precious resources. Then subsequently – doubling down on this cycle of Failure, Fix Fast & Forget – the failure recurs because it hasn't been correctly treated in the first place.

Course Content

- The nature of failure
- Defining the problem
- Gathering evidence and significant information
- Selecting the right tools for the job
- Treating the evidence
- Possible and Probable Root Cause
- Confirming Root Cause
- Specifying recommended actions
- Root Cause investigation report

Learning Objectives

- ✓ To provide tools that will describe the What, Where, When, How and Why of the failure. E.g., Analyse problems thoroughly and effectively
- ✓ To give delegates the requisite understanding to apply the tools at different levels of failure complexity
- ✓ Identify the root cause of existing chronic and complex failures and identify latent failures to prevent future problems at source

Target Learner

Engineers, technicians, craft, supervisors, team leaders, co-ordinators, facilitators, managers. This is truly a course for everyone who needs to get to the root of a failure, incident, or non-conformance in their area of work.

Certification

A Certificate of Completion is awarded at the end of the course.

Spare Parts Optimisation

Overview

The course has been designed to appeal to those organisations which must ensure that Maintenance Spare Parts and Inventory is managed at optimum levels. It is particularly aimed at those who carry responsibility for managing and supervising the process of setting and managing maintenance inventory from stock creation through stock control and onto stock disposal. It is therefore suited to Maintenance Managers, Maintenance Team Leaders/Supervisors, Stores and Procurement personnel.

Course Contents

- Why carry inventory, costs involved
- Inventory models, techniques
- KPI's
- Processes
- Practical excercises

Learning Objectives

- ✓ Define why companies need to carry Inventory & Spare Parts and understand the costs associated with holding Inventory
- ✓ Comprehend the various Inventory Models, Types & Systems and implement Inventory Reduction Techniques
- ✓ Refine your Inventory Management process to enhance Maintenance and company performance

Target Learner

Those who carry responsibility for managing and supervising the process of setting and managing maintenance inventory from stock creation through stock control and onto stock disposal.

Certification

A Certificate of Completion is awarded at the end of the course.

Writing Practical Maintenance Routines

Overview

Learn the basic theory behind a practical program, what are we trying to address, how is the frequency determined what tactics are appropriate? Answer these questions and many more and learn how to write practical maintenance routines that are targeted, unambiguous, efficient and effective.

Course Contents

- Maintenance infrastructure and adopting a Maintenance Strategy
- Asset Care Plans
- The Scope of Asset Care Plans
- A stepped approach to PM compilation
- PM Compilation Exercise

Learning Objectives

- ✓ Learn how to develop asset car plans, determine appropriate tasks and write precise instructions
- ✓ Understand how maintenance tactics need to be appropriate to the machine and to construct an Asset Care Package
- ✓ Know how to view all aspects of an asset care package, produce effective and efficient maintenance tasks and standardise Planned Maintenance Routines

Target Learner

Maintenance professionals, personnel compiling and managing asset care, those driving availability and reliability improvement and/or maintenance standards.

Certification

A Certificate of Completion is awarded at the end of the course.

TECHNICAL COURSES

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Advanced Programmable Logic Controllers

Overview

The PLC is a vital element in modern industry and this course provides an advanced perspective for persons looking to progress in this area. The course will complement and build on the trainee's existing skillset, by exploring PLCs, a vital element widely used in Industrial, Commercial, Recreational and Manufacturing settings. This is achieved by equipping you with an advanced level knowledge and awareness of PLC controlled systems, in order to carry out basic electrical fault finding and repair as well as the ability to create PLC programs to an industry standard.

Modules

- Review of electrical basics and importance of safety when working on electrical circuits & design of electrical protection
- Review of electrical schematics, understanding how they are designed and fault finding using electrical schematics
- Introduction to programmable logic controllers and PLC programming environment
- Wiring digital inputs and digital outputs on the PLC training rig

Learning Objectives

- ✓ Use IEC 61131 compatible PLC programming languages to develop structured programmes for control applications
- ✓ Understand written specifications and apply them to program development
- ✓ Understand and apply different standards such as PackML and S88

Target Learner

Maintenance personnel who would like to enhance their skills by using PLC logic as a means of diagnosing machine faults.

Certification

All trainees will receive a certificate of attendance after course completion.

Ammonia Awareness Toolbox Talk

Overview

The ESS Ltd. Ammonia Awarenes Training course is designed for all personnel who may come into contact with Anhydrous Ammonia (R717) Refrigerant in the work place. It is designed to make all participants aware of the risks and safety procedures involved in handling R717 (Anhydrous Ammonia).

Course Content

- Overview of refrigerants (CFC, HCFC, HFC and Natural Refrigerants)
- Principles of the vapour compression system
- Liquid overfeed system (Ammonia) including oil separation and return
- Major components of a liquid overfeed system
- Cooling Tower principles
- Basics of legionella
- Ammonia as a Refrigerant
- Flammability and Toxicity
- Ammonia Physical, Physiological and Chemical properties,
- COSHH Regulations
- Employees Duties under the Health and safety at work regulations
- R717 First Aid
- Potential Hazards
- Site Precautions
- Associated Emergency Equipment
- Plant room equipment
- Emergency Procedures
- Ventilation
- Leak detection alarms
- Associated P.P.E
- Using P.P.E.
- Respiratory Protective Equipment
- Risk Identification
- Permit to work systems
- Environmental Issues
- Ammonia Pressure and leak Testing
- Strength test procedure
- Pumping Out and Discharging Ammonia from the System
- Decanting Ammonia from a Refrigeration Plant
- Labelling Cylinders
- Refrigerant Storage
- Charging Procedures

Target Learner

Management, supervisors and persons entering or working near ammonia machinery rooms.

Certification

A Certificate of Completion is awarded at the end of the course.

ATX-02 Installation & Maintenance of Equipment in Explosive Atmospheres

Overview

This is a two-day course intended to provide candidates with an understanding of the requirements associated with working in explosive atmospheres formed by dusts, gases, vapours & mists. It covers in detail specific requirements for equipment installation and maintenance of electrical installations in explosive atmospheres.

Course Contents

- ATEX Regulations Overview Health & Safety
- Explosive Atmospheres Overview
- ATEX Regulations Overview Equipment
- Overview of the aspects of equipment design which affect the protection concept
- Technical methodologies to be employed in the inspection and maintenance of equipment
- Importance of permit to work systems and safe isolation in relation to explosion protection
- General principles of types of protection and marking
- Participants will be instructed on correct cable gland selection, installation, and Inspection as well as correct termination techniques for different types of protection concepts
- Common faults on installations
- Overview of the repair and reclamation requirements of IEC 60079-19

Target Learner

Practicing electrical or instrument technicians who are involved in installing, inspecting, and maintaining certified Ex electrical equipment in locations where Dust, Gases & Vapours can potentially create a hazardous area.

Certification

A Certificate of Completion is awarded at the end of the course.

Boiler Operative Accreditation Scheme (BOAS)

Overview

The BOAS (Boiler Operative Accreditation Scheme) is an internationally recognised qualification for boiler operators and will help employers demonstrate that they have provided suitable and appropriate training to boiler operators and boiler house managers. The aim of this scheme is to provide detailed information relating to the correct operation of a boiler plant and the associated regulations and requirements.

Course Contents

- Fundamental Terms and Concepts
- Heat and Heat Transfer Concepts
- Combustion and Draught
- Feed Water
- Control and Instrumentation
- Safety and Legal Requirements
- Energy Efficiency
- Environment
- Boilers and Auxiliaries
- Operation
- Fuel Concepts and Management

Learning Objectives

- ✓ Be aware of the properties and power of steam and understand how different types of boiler & their components are constructed and why
- ✓ Understand safe operation of boilers and their associated systems and understand boiler room layout and process systems
- ✓ Have a basic knowledge of boiler feedwater treatment and the need for this and of boiler combustion and efficiency

Target Learner

Boiler/boiler house operators or managers with responsibility over a boiler houses and its operators.

Certification

Successful candidates will receive a certificate of achievement which confirms their BOAS accreditation and is valid for five years.

Certificate in Industrial Electrical Safety and Systems

Overview

The Certificate in Industrial Electrical Safety and Systems (CIESS) training course is recommended for anyone who works with electrical systems and is designed to give non-electrical personnel the ability to diagnose industrial faults and to carry out repairs/replacements safely.

This Industrial Electrical Training Course aims to turn out technicians with a knowledge of industrial electrical engineering and the skills needed to specify, install, test, and validate electrical and control systems and their operations in a safe manner.

Modules

- Basic Electric Circuits
- Ac Power And Energy
- Transformer And Motor Operation
- Operation And Testing Of Control And Power Circuits
- Electrical Safety

Learning Objectives

- ✓ The learners will gain a broad technical knowledge in the core discipline – electrical engineering and will be provided with the theoretical and mathematical basis for these systems demonstrated through practical application
- ✓ Completion of the programme will allow them to understand the electrical maintenance systems and safety required in the manufacturing sectors
- ✓ Real benefits to employers in improving efficiency, effectiveness and productivity of systems while applying ethical, safe, and sustainable improvements

Target Learner

Industrial maintenance and manufacturing personnel who would like to increase their electrical and electrical troubleshooting knowledge/skills.

Certification

Graduates are awarded a QQI NFQ Level 6 Certificate.

Certificate in Industrial Instrumentation Calibration

Overview

The Certificate in Industrial Instrumentation Calibration (CIIC) is designed to develop learners' understanding of the principles of instrument calibration, calibration terminology, and relevant procedures, and to develop the skills to perform calibration techniques, and measure, record and evaluate data. The programme will equip those working in industry (manufacturing, MedTech, pharmaceutical) and services with the theoretical knowledge and practical skills to check and verify process control instruments.

Modules

- Safe work practices in process environments
- Principles of calibration
- Pressure measurement
- Level measurement
- Flow measurement
- Temperature Measurement
- Good practices in calibration system documentation and records

Learning Objectives

- ✓ Explain the principles of operation of industrial measurement instruments
- ✓ Describe the principles of calibration and the associated standard instruments and data sheets/job plans
- ✓ Perform appropriate calibration techniques on measurement instruments using standard safety and operational procedures
- ✓ Calibrate measurements and report on the indicated errors and required corrective instrument adjustments
- ✓ Measure, record and evaluate appropriate calibration data clearly and concisely

Target Learner

Individuals employed in manufacturing and service industries who are required, as part of their job or in a new role, to have the knowledge, skills, and competence to check and verify process control instruments.

Certificate in Industrial Manufacturing and Maintenance Skills

Overview

The Certificate in Industrial Manufacturing and Maintenance Skills (CIMMS) is designed to give operators and technicians the knowledge, skills, and competence to undertake a broad range of technical, maintenance and service tasks in an industrial manufacturing setting.
The modern manufacturing technician is required to be competent in a broad range of cross-functional technical skills including EElectrical /HVAC/Refrigeration/F-Gas/ Good Manufacturing Practices including GMP Requirements & Compliance, Validation and Calibration, Facilities and Utilities, Good Documentation Practices, and Technical Writing and Communications skills.

Modules

- Industrial Electrical Safety And Systems
- Fundamentals Of GMP And Quality Regulations
- HVACR Principles
- Workplace Communication

Learning Objectives

- ✓ Graduates will be equipped with a hybrid of technical and soft skills and a core message of safety throughout the programme
- ✓ Graduates will be able to communicate effectively with colleagues in the workplace with an emphasis that quality is everyone's responsibility
- ✓ The programme has been designed to address the shortfall of broad maintenance skills in the market

Target Learner

Industrial maintenance and manufacturing personnel who would like to increase their technical knowledge and skills.

Certification

QQI NFQ level 6.

Commercial & Industrial HVAC Systems

Overview

This 3 day HVAC course has been specifically tailored for Maintenance Technicians & Tradesmen, to provide them with the knowledge necessary to confidently approach a range of different air conditioning systems and to carry out effective fault diagnosis, repair, service and maintenance. You will also be provided with the skills necessary to deal confidently with outside air-conditioning contractors and witness system commissioning.

Course Contents

- Basics of the Vapour Compression system
- Air Conditioning and Heat Pump Systems, VRF, Metering Devices, Head Pressure Control, Compressors, Superheat and Sub cooling
- Maintenance and service procedures, Refrigerants, Vacuuming and dehydrating systems, pressure Testing, Glide and Slide (Fractionation)

Learning Objectives

- ✓ To teach participants the basic principles of Air Conditioning and provide participants with an understanding of the Vapour Compression Refrigeration Cycle
- ✓ To demonstrate an understanding of Psychrometrics (Properties of air) and explain the purpose of the most common system components
- ✓ To provide the knowledge necessary for participants to make a logical selection of equipment

Target Learner

National Vocational Certificate Level 1, Leaving Certificate or equivalent qualifications and/or relevant work experiences in an associated industry position, possibly from a craft background.

Certification

A Certificate of Completion is awarded at the end of the course.

Electrical Faultfinding & Troubleshooting

Overview

This course has been designed to provide participants with basic electrical troubleshooting techniques. It covers an analytical method for troubleshooting commonly used electrical control systems. The correct safety procedures to be used in troubleshooting electrical equipment will be explained in detail. The participants will be given real-world scenarios as classroom exercise to reinforce theory.

Course Contents

This very practical & hands-on workshop is deliberately limited to just six people and includes commonly used electrical equipment and components so that your faultfinding skills are built up by doing, not just by listening! Course Contents are a mix of theory, practical and testing.

Learning Objectives

- ✓ Use single line diagrams and control system drawing in faultfinding and the use of electrical testing tools in locating faults
- ✓ Be able to apply a logical approach to finding a fault in an electrical control circuit and apply faultfinding aids such as flow charts, system diagrams and circuit diagrams
- ✓ Appreciate the importance of documenting the maintenance history of a machine

Target Learner

Technicians, crafts and new engineers working in the manufacturing industry who wish to apply their knowledge of electricity to the maintenance and repair of equipment.

Certification

A Certificate of Completion is awarded at the end of the course.

Electrical Safety and Awareness

Overview

The non electrical personnel in the modern manufacturing environment must have an awareness of the implications of using electrical controlled equipment and systems. This course will raise consciousness of the electrical environment and guide the participant in the safe utilisation of electrical control systems.

Course Contents

- Electrical Safety
- The conditions which can lead to Injury or Electrocution
- Common electrical components and their use
- Power arcs and approach boundaries
- Electrical emergencies
- Electrical schematics
- Resetting Trips, consideration for deciding
- Potential accidents and hazards
- Electrical safety tips
- General procedures and Lock out/ tag out

Learning Objectives

✓ Provide an awareness of the circuitry and associated hazards found in typical electrical control panels and systems in your plant

✓ The participant will be given information regarding electrical safety, various examples, and realistic work scenarios and shall be able to identify and describe electrical hazards and precautions that should be taken to avoid injury in the workplace

Target Learner

Process Operators, Mechanical Personnel, Process Supervisors, Process Managers.

Certification

A Certificate of Completion is awarded at the end of the course.

Introduction to Boiler Operations, Safety and Legislation

Overview

This course is specifically designed to cover the basics of boiler operation and safety for clients on their plant/sites. It is an ideal introduction for all boiler personnel, particularly those on the fringes of boiler operation e.g., maintenance personnel, electricians, general operatives, apprentices, operations management, supervisors etc., or indeed as a refresher for long time boiler operators. It will give a through grounding in boiler operations, ideally preparing personnel for the more in-depth BOAS course and qualification.

Course Contents

In so far as possible we tailor the course to your specific boiler plant, and/or other requirements, often using a pre course site visit(s) to gather necessary information in this regard.

Learning Objectives

- ✓ Be aware of the properties and power of steam and understand how different types of boiler & their components are constructed and why
- ✓ Understand safe operation of boilers and their associated systems and understand boiler room layout and process systems
- ✓ Have a basic knowledge of boiler feedwater treatment and the need for this and of boiler combustion and efficiency

Target Learner

Boiler personnel, particularly those on the fingers of boiler operation e.g., maintenance personnel, electricians, general operatives, apprentices, operations management or supervisors.

Certification

A Certificate of Completion is awarded at the end of the course.

Introduction to Programmable Logic Controllers

Overview

The PLC is a vital element in modern industry and this course provides a solid basis for maintenance personnel to progress in this area. The course will complement and build on the trainee's existing skillset, by exploring PLCs, a vital element widely used in Industrial, Commercial, Recreational and Manufacturing settings. This 3-day Introduction to PLCs course is recommended for people who would like to enter maintenance and facilities management roles, equipping you with an entry-level knowledge and awareness of PLC controlled systems, in order to carry out basic electrical fault finding and repair.

Modules

- Review of electrical basics and importance of safety when working on electrical circuits & design of electrical protection
- Review of electrical schematics, understanding how they are designed and fault finding using electrical schematics
- Introduction to programmable logic controllers and PLC programming environment
- Wiring digital inputs and digital outputs on the PLC training rig

Learning Objectives

- ✓ Describe how a PLC works and understand the operation of PLC system components
- ✓ Describe the importance and uses of Sets/Resets, Counters and Timers
- ✓ Write a basic PLC programme from a written brief

Target Learner

Maintenance personnel who would like to enhance their skills by using PLC logic as a means of diagnosing machine faults.

Certification

All trainees will receive a certificate of attendance after course completion.

PLC and Control Systems

Overview

Personnel in the modern maintenance manufacturing environment must understand the commonly used equipment and controls in their plant. The aim of this course is to provide an understanding of electrical systems and an awareness of the circuitry, controls and associated hazards found in typical electrical systems in your plant. The participants will be given information regarding electrical systems, safety, protection equipment and electrical components and control systems commonly used in industry. The participants will gain an understanding of PLC's and how they link with field equipment.

Modules

- Review of electrical basics and importance of safety when working on electrical circuits & design of electrical protection
- Review of electrical schematics, understanding how they are designed and fault finding using electrical schematics
- Introduction to programmable logic controllers and PLC programming environment
- Wiring digital inputs and digital outputs on the PLC training rig

Learning Objectives

- ✓ Understand basic electrics and importance of safety when working on electrical circuits
- ✓ Apply logical faultfinding approach to faults on field equipment and PLC's and understand the use of analogue and digital signals
- ✓ Be able to read and understand electrical drawings with examples using their own schematics (on-site)

Target Learner

Personnel in maintenance or manufacturing including maintenance technicians, mechanical fitters and electricians.

Certification

Learners are awarded a Vendor Certificate of Completion.

Refrigeration Principles & Systems

Overview

This 3 day Refrigeration Systems course has been specifically tailored for Maintenance Technicians and Tradesmen, to provide them with the necessary knowledge and understanding of the principles, functions, composition, layout and hazards of refrigeration systems. With this training, they will be able to confidently approach a range of different refrigeration systems and carry out effective fault diagnosis, repair, service and maintenance.
They will also be provided with the skills necessary to deal confidently with outside refrigeration contractors and witness system commissioning.

Modules

- Health and safety
- Fundamental Terms – Definitions and Basic Principles
- Practical workshop
- Refrigeration Compressors, Evaporators and Condensers
- Oil Distribution System
- Defrost Methods, System Process
- Refrigerant Recovery and Troubleshooting
- Maintenance and Improving Plant Efficiency

Learning Objectives

- ✓ Maintain the efficient operation of refrigeration plants
- ✓ Gain a working knowledge and understanding of refrigeration principles
- ✓ Identify standard refrigeration plant components

Target Learner

National Vocational Certificate Level 1, Leaving Certificate or equivalent qualifications and/or relevant work experiences in an associated industry position. This need not necessarily be a craft background in mechanical or electrical maintenance.

Certification

A Certificate of Completion is awarded at the end of the course.

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