Malaysia training and consulting
Course catalogue
About Us

Festo Malaysia was established in 1978 as a wholly owned subsidiary of Festo AG & Co. KG, Germany. Festo is a leading industrial automation company offers innovative products, solutions and services around the world. With over 250 branch offices in 176 countries, Festo ensures to be in close proximity to its customers.

Festo dedicates itself not only to automation technology but also knowledge advancement, and this is demonstrated through our comprehensive range of learning systems and worldwide recognized training courses which are provided in 39 languages. Through our partnerships with major training institutions like Penang Skills Development Center (PSDC), companies like ST Microelectronics (Muar), we have trained more than 30,000 personnel in Malaysia since 1978.

Festo Didactic Malaysia has modern training facilities and is proud to be HRDC-approved training center, providing seminars over a wide spectrum of technical disciplines.

For more information on our training courses, please visit www.festo-didactic.com/my-en
Dear reader,

Welcome to Festo training course brochure.

Festo is a global engineering and manufacturing company that maintains its own global training and consulting teams for customers all around the world.

Operating in the same economic sector and environment as our customers, we have a level of understanding and insight into your challenges that allows us to meet your needs by providing targeted training solutions. We are able to deliver our training services around the world in local languages to the high standard that both you and we require.

We are glad to offer our professional technical courses for your staff to help improve the productivity in your company. All our courses have been designed with engineering personnel in mind. One of the features of our courses is the hands-on portion where the participants have to assemble and test their solutions to the exercises.

This catalogue provides details of our competence programs. We look forward to welcoming you to one of the courses soon.

Ng Swee Min
Didactic Manager – Festo Malaysia
Pneumatics
- Industrial Pneumatics (PN11)
- Maintenance & troubleshooting of Pneumatics (PN12)
- Advanced of Industrial Pneumatics (PN13)

Hydraulics
- Industrial Hydraulics (HN21)
- Maintenance & troubleshooting of Hydraulics (HN22)
- Advanced of Industrial Hydraulics (HN23)

Electric Drives
- Fundamental of Electric Drives and Electromechanical Systems (ED811)

PLC
- Programming of PLC with Pneumatics - Festo (PLC311)
- Programming of PLC with Pneumatics - Omron (PLC312)

Automation
- Introduction to Industry 4.0 and Core Elements (IND401)
- Smart manufacturing with product identification system (IND402)
- Mechatronics - Programming of PLC & Troubleshooting (Festo)(MPS1)
- Mechatronics - Programming of PLC & Troubleshooting (Omron) (MPS2)
Fundamental
• PN11 - Industrial Pneumatics
• HN21 - Industrial Hydraulics
• ED811 - Fundamental of Electric Drives and Electromechanical System

Maintenance
• PN12 - Maintenance & Troubleshooting Pneumatics Systems
• HN22 - Maintenance & Troubleshooting Hydraulics Systems

Advanced
• PN13 - Advanced Industrial Pneumatics
• HN23 - Advanced Industrial Hydraulics

Programming
• PLC311 - Programming of PLC with Pneumatics (Festo)
• PLC312 - Programming of PLC with Pneumatics (Omron)
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Programming
PLC311 - Programming of PLC with Pneumatics (Festo)
PLC312 - Programming of PLC with Pneumatics (Omron)

Automation
• MPS1 - Mechatronic - Programming of PLC & troubleshooting (Festo)
• MPS2 - Mechatronic - Programming of PLC & troubleshooting (Omron)
• IND401 - Introduction to Industry 4.0 and core elements
• IND402 - Smart manufacturing with product identification systems
Course Outline

PN11 Industrial Pneumatics

Course Objective
This training course aims to provide the participants the knowledges of both pneumatic and electro-pneumatic control system as practiced in the industry. Familiarization of both basic pneumatic and electro-pneumatic components as well as their function and structure is learned and practiced in this course.

Target Group
Maintenance staff, technicians, engineers and trainers

Target Industry
Pneumatic related, Manufacturing Industry, Oil and Gas Industry

Course Content
• Fundamental of compressed air generation, distributions and preparation
• Role of service units
• Characteristics of pneumatic system
  - Properties compressed air
  - Advantages and disadvantages of compressed air
  - Structural and signal flow of pneumatic systems
• Pneumatic Power Section Devices (Linear and rotary actuators)
• Construction and development pneumatic valves.
• Different valve actuation method: Manual, Mechanical, Electrical and Pneumatic
• Comparison of development basic pneumatic and electro pneumatic control system
• Development and layout of simple controls:
  - Basic pneumatic circuits
  - Basic electro-pneumatic circuits
• Basic electrical logic function circuit: OR/AND/ NOT/ YES
• Function and construction of electrical switching devices.
• Application of proximity sensors: Magnetic, Inductive, Capacitive and Optical
• Pneumatic and Electrical Limit Switches
• Speed control circuit: Supply or Exhaust control configuration.
• Application of quick exhaust valve.
• Pressure dependent circuit.
• Timer and Counter application in pneumatics.
• Pneumatic and Electrical memory circuit
• ISO electrical and pneumatic symbols according to ISO1219

Course outcomes
• Knows the basic principles of compressed air generation, distributions and preparation.
• Understand the process and signal flow of electrical control section and pneumatic power section.
• Acquire knowledges of the construction and function of electrical switching devices, sensors, pneumatic valve and solenoid operated valve.
• Able to read the symbolic representation of devices and standards.
• Able to analyses and interpret simple pneumatic and electro pneumatic circuits.
• Able to design, assemble, test and troubleshoot basic pneumatic and electro pneumatic circuits.
• Meet the requirements for a higher-level course.

Methodology
• Competency based
• State of the art teaching resources and facilities
• Individual and team skills development
• Video presentations
• Simulation and practices

Prerequisites
General technical knowledge

Duration
4 days/28 hours

Certification
Certificate of Attendance will be awarded
Course Objective
This training course provide the participant with the knowledge of understanding pneumatics systems from the maintenance perspective. A systematic troubleshooting and professional error elimination in pneumatic as well as electro-pneumatic system is learned and practiced.

Target Group
Maintenance staff, technicians, engineers and trainers

Target Industry
Pneumatic related, Manufacturing Industry, Oil and Gas Industry

Course Content
• Compressed air preparation:
  - Need for clean compressed air
  - Compressed air receiver
  - Air drying
  - Distribution of compressed air
  - Role of air service units
• Control chain of pneumatic and electro pneumatic system
• Function and construction of pneumatic actuators
• Function and construction of electrical switching devices and electronic sensors.
  - Electrical switches and relay
  - Proximity Magnetic Sensor
  - Proximity Optical Sensor
  - Proximity Inductive Sensor
  - Proximity Capacitive Sensor
  - Pressure Sensor
• Development and construction of pneumatic and electro-pneumatic circuit.
• Typical error patterns for pneumatic systems.
• Causes of compressed air loses, lower cylinder forces and slow pressure built-up.
• Part subject to wear and tear.
• Possible causes of failure on individual components.
• Understanding circuits and discerning any non-conformities
• Performing routine maintenance and safety regulation.
• Systematic troubleshooting and fault tracing procedure.
• Symbolic representation of devices and standard accordance to ISO 1219

Course outcomes
• Knows and can identify the problem associated with poor compressed air preparation.
• Knows the preventive maintenance required for components that are subject to wear and the possible sources of faults in pneumatics system.
• Acquire a working knowledge of fundamental control of pneumatic systems.
• Can assemble and test pneumatic and electro pneumatic system according to circuit diagram.
• Can read and interpret pneumatic and electro pneumatic circuit.
• Understand a systematic approach of fault finding is practiced as in the reading of pneumatic and electro-pneumatic circuits.

Methodology
• Competency based
• State of the art teaching resources and facilities
• Individual and team skills development
• Video presentations
• Simulation and practices

Prerequisites
Basic knowledge of pneumatics

Duration
4 days/28 hours

Certification
Certificate of Attendance will be awarded
PN13  Advanced Industrial Pneumatics

Course Objective
To provide the participant with a wider knowledge of complex pneumatic and electro-pneumatic control systems as well as to develop ability to design, assemble and operate the controls. Participants would be able to read and assemble circuits with additional conditions.

Target Group
Maintenance staff, technicians, engineers and trainers

Target Industry
Pneumatic related, Manufacturing Industry, Oil and Gas Industry

Course Content
• Fundamentals and definitions in control technology:
  - Signal flow and control chain
• Functions and characteristics of electro-pneumatic components:
  - Air supply components
  - Directional control valves
  - Switches and contacts
  - Electrical sensors
  - Actuators
• Development and construction of pneumatic and electro pneumatic circuit.
• Sequence control system
  - Motion sequence representation
  - Displacement-Step Diagram
  - Displacement-Time Diagram
• Pneumatic sequence circuit:
  - Reversing valve
  - Time-delay valve circuit
• Systematic design for pneumatic sequence circuit:
  - Pneumatic Cascade Control method
• Electro pneumatic sequence circuit:
  - Pneumatic memory circuit
  - Electrical memory circuit
• Systematic design for electro pneumatic sequence circuit:
  - Electrical Cascade method
  - Electrical Shift Register method
  - Electrical Stepper Control method
• Sequence control with auxiliary conditions:
  - On/off and auto mode
  - Single/continuous cycle
  - Emergency off

Course outcomes
• Can design, assemble and test complex pneumatic and electro pneumatic circuits.
• Knows the sequential control of pneumatic and electro pneumatic system.
• Knows and identify different method of designing complex pneumatic and electro pneumatic circuits.
• Can interpret pneumatic and electro pneumatic sequence circuit diagram
• Can maintain and troubleshoot complex pneumatic and electro pneumatic control system.
• Meet the requirements for a higher-level course.

Methodology
• Competency based
• State of the art teaching resources and facilities
• Individual and team skills development
• Video presentations
• Simulation and practices

Prerequisites
Basic knowledge of pneumatics

Duration
4 days/28 hours

Certification
Certificate of Attendance will be awarded
Programmable Logic Controllers (PLC) Series

PLC311 Programming of PLC with Pneumatics (Festo Codesys)

Course Objective
The objective of the program is to provide the participants with a basic knowledge of the construction and operation of programmable logic controllers as well as to develop the ability to write simple programs using Codesys according to IEC61131-3 standard and operate basic pneumatic controls system with PLC.

Target Group
Maintenance staff, technicians, engineers and trainers

Target Industry
Manufacturing Industry, Oil and Gas Industry

Course Content
- Function and application of PLC.
- Components of a PLC:
  - Hardware and software
  - Programming device
  - General structure of PLC program
- PLC Address:
  - Input/output listing
  - Electrical and pneumatic circuit diagram
  - Input/ output devices
- Programming languages of PLC according to IEC 61131-3
  - Ladder Diagram (LD)
  - Function Block Diagram (FBD)
  - Instruction List (IL)
  - Structured Text (ST)
  - Sequential Function Chart (SFC)
- Commissioning of a PLC
- Communication interface with PLCs
- Procedure for creating a PLC program
- Advantages of a PLC as compare to conventional electro pneumatic or electrical relay-based control.
- Programming of control task:
  - Logic function
  - Position dependent control
  - Timing sequence
  - Counting signal
  - Positive and Negative edge triggered
  - Signal storage
  - Internal memory

Course Outcomes
- Knows the basic pneumatic control technology with PLC
- Is familiar with the construction and operation of the PLC.
- Can connect input and output elements with the PLC
- Can assemble and test simple pneumatic control system with PLC
- Can create simple programs for control and commissioning them
- Meet the requirements for a higher-level course

Methodology
- Competency based
- State of the art teaching resources and facilities
- Individual and team skills development
- Video presentations
- Simulation and practices

Duration
3 days/ 21 hours

Certification
Certificate of Attendance will be awarded

PLC312 Programming of PLC with Pneumatics (Omron)

Course Objective
The objective of the program is to provide the participants with a basic knowledge of the construction and operation of programmable logic controllers as well as to develop the ability to write simple programs using CX-Programmer according to IEC61131-1 and operate basic pneumatic controls system with PLC.

Target Group
Maintenance staff, technicians, engineers and trainers

Target Industry
Manufacturing Industry, Oil and Gas Industry

Course Content
- Function and application of PLC.
- Components of a PLC:
  - Hardware and software
  - Programming device
  - General structure of PLC program
- PLC Address:
  - Input/output listing
  - Electrical and pneumatic circuit diagram
  - Input/ output devices
- Programming languages of PLC according to IEC 61131-3
  - Ladder Diagram (LD)
- Commissioning of a PLC
- Communication interface with PLCs
- Procedure for creating a PLC program
- Advantages of a PLC as compare to conventional electro pneumatic or electrical relay-based control.
- Programming of control task:
  - Logic function
  - Position dependent control
  - Timing sequence
  - Counting signal
  - Positive and Negative edge triggered
  - Signal storage
  - Internal memory

Course Outcomes
- Knows the basic pneumatic control technology with PLC
- Is familiar with the construction and operation of the PLC.
- Can connect input and output elements with the PLC
- Can assemble and test simple pneumatic control system with PLC
- Can create simple programs for control and commissioning them
- Meet the requirements for a higher-level course

Methodology
- Competency based
- State of the art teaching resources and facilities
- Individual and team skills development
- Video presentations
- Simulation and practices

Duration
3 days/ 21 hours

Certification
Certificate of Attendance will be awarded
Hydraulics/ Electro-Hydraulic Series

HN21  Industrial Hydraulics

Course Objective
This training course provide participant with the basic knowledge of the construction and function of hydraulic and electric components as well as develop the ability to read, design and construct simple hydraulic circuits.

Target Group
Maintenance staff, technicians, engineers and trainers

Target Industry
Hydraulic related, Manufacturing Industry, Oil and Gas Industry

Course Content
• Fundamental physical principles of hydraulics:
  - Physical quantities and units in hydraulics
  - Basic physical laws of hydraulics
• Hydraulic systems:
  - Basic hydraulic system
  - Advantages and disadvantages of hydraulics
• Components of hydraulic power pack
• Characteristics and function of hydraulic actuators
• Characteristics and function of hydraulic valves:
  - Pressure control valves
  - Directional control valves
  - Flow control valves
  - Non-return valves
• Construction and principle of electrical components:
  - Electrical switches and contacts
  - Basic electrical sensors
  - Solenoid operated directional control valves
• ISO electrical and hydraulic symbols according to ISO 1219
• Development and layout of simple controls:
  - Basic hydraulic circuits
  - Electro-hydraulic circuits

Course outcomes
• Acquire knowledges of physical principles of hydraulics.
• Acquire a working knowledge of the construction and function of hydraulic elements that is commonly used in industries.
• Understand the hydraulic fundamental controls and circuits.
• Can identify and explain symbols for hydraulics, electrohydraulic and electrical components.
• Can design, assemble and test hydraulic and electrohydraulic circuit diagrams.
• Can apply the principles of systematic troubleshooting to real applications of hydraulics system.

Methodology
• Competency based
• State of the art teaching resources and facilities
• Individual and team skills development
• Video presentations
• Simulation and practices

Prerequisites
General technical knowledge

Duration
4 days/28 hours

Certification
Certificate of Attendance will be awarded

HN22  Maintenance and Troubleshooting of Hydraulics System

Course Objective
This course provides the participant with the knowledge of hydraulic control systems, a systematic approach to maintenance, troubleshooting and design of hydraulic circuits is practised.

Target Group
Maintenance staff, technicians, engineers and trainers

Target Industry
Hydraulic related, Manufacturing Industry, Oil and Gas Industry

Course Content
• Fundamental of hydraulics:
  - Basic principles
  - Function and construction of components used in the power supply section
• Function and maintenance requirements of hydraulic components:
  - Pressure control valves
  - Directional control valves
  - Non-return valves
  - Flow control valves
  - Hydraulic cylinder
  - Hydraulic motors
  - Hydraulic accessories
• Function and maintenance of electrical components:
  - Switches and contacts
  - Basic electrical sensors
  - Solenoid operated directional control valves
• Fault identification and location:
  - Systematic fault tracing
  - Monitoring the sequence of operation
  - Logical troubleshooting
• Maintenance requirement of hydraulic systems
• ISO electrical and hydraulic symbols according to ISO1219
• Development and layout of sequence control:
  - Electrical logic function

Course outcomes
• Can design, assemble and test basic hydraulic and electrohydraulic circuit.
• Can identify and describe the design function of electrohydraulic components.
• Can read and interpret hydraulic and electro-hydraulic circuit diagrams.
• Can apply the principles of systematic troubleshooting to real application.
• Able to localize, analyze, rectify and document common faults in hydraulic systems.

Methodology
• Competency based
• State of the art teaching resources and facilities
• Individual and team skills development
• Video presentations
• Simulation and practices

Prerequisites
We recommend a basic knowledge of hydraulics system (Our course: HN21)

Duration
4 days/28 hours

Certification
Certificate of Attendance will be awarded
Course Objective
This course provides the participant with a wider knowledge of complex hydraulic and electro-hydraulic control systems as well as to develop ability to design, assemble and operate the controls which enable the participants to read and assemble circuits with additional conditions.

Target Group
Maintenance staff, technicians, engineers and trainers

Target Industry
Hydraulic related, Manufacturing Industry, Oil and Gas Industry

Course Content
• Fundamentals of hydraulics:
  - Basic principles and physical laws of hydraulics
• Characteristics and function of hydraulic actuators
• Characteristics and function of hydraulics valves
  - Pressure control valves
  - Directional control valves
  - Flow control valves
  - Non-return valves
• Construction and principles of electrical components:
  - Electrical switches and contacts
  - Electrical sensors
  - Solenoid operated directional control valves
• ISO electrical and hydraulics symbols according to ISO1219
• Basic hydraulic circuits
• Development and layout of control tasks:
  - Development steps
  - System structure
• Designing electro-hydraulic systems:
  - Logic functions
  - Memory/latching function
  - Controlling circuits remotely
• Control with auxiliary conditions:
  - On/off and auto mode
  - Pressure switch control
  - Emergency off, etc

Course outcomes
• Knows the functional relationships of complex hydraulics control systems.
• Acquire a knowledge of construction and development of hydraulic components.
• Can use methodological procedures and observe the relevant safety regulations and standards.
• Able to read and analyze complex hydraulic and electrohydraulic circuits
• Can design, assemble and test complex hydraulic and electrohydraulic circuit.

Methodology
• Competency based
• State of the art teaching resources and facilities
• Individual and team skills development
• Video presentations
• Simulation and practices

Prerequisites
We recommend a basic knowledge of hydraulics system (Our course: HN21)
ED811    Fundamentals of Electric Drives and Electromechanical Systems

Course Objective
To provide participant with the fundamental knowledge and skill on the different electric motors and its application. Participants will also be able to incorporate the motors to the electrical drive units.

Target Group
Maintenance staff, technicians, engineers and trainers

Target Industry
Manufacturing Industry, Oil and Gas Industry, Industrial Automation

Course Content
• Introduction to Electrical Motors
• Types of Industrial Motors
  - Stepper Motors
    - Introduction
    - Variable resistance (VR) stepper motors
    - Permanent magnet (PM) stepper motors
    - Hybrid stepper motors
    - Phases of stepper motors
    - Stepping angles of stepper motors
    - Advantages and disadvantages of stepper motors
    - Benefits of stepper motors
    - Applications of stepper motors
  - Servo Motors
    - Introduction
    - How servo motors work?
    - Brushless servo motors.
    - Servo motor controllers.
    - Feedback systems.
    - Advantages and disadvantages of servo motors
    - Benefits of servo motors
    - Applications of servo motors
• Electric Drives
  - Introduction
  - Types of electric drives
  - Advantages and disadvantages of different drive designs
  - Applications of electric drives
• Complete systems
  - Using the different motors with the different drives
  - Applications of electric drive systems
• Simulation and Practical exercises

Course outcomes
• Knows the difference between controlling a stepper motor and a servo motor
• Knows which components are needed for an electric-drive system
• Understand how the configuration software FCT is used
• Knows how to work safely with electrical drives
• Can select the most appropriate drive system for a given application
• Can assemble, power up and configure a system
• Can find and correct possible faults including interpreting error messages
• Can work safely with an e-drive

Methodology
• Competency based
• State of the art teaching resources and facilities
• Individual and team skills development
• Video presentations
• Simulation and practices

Prerequisites
General technical knowledges

Duration
3 days/21 hours

Certification
Certificate of Attendance will be awarded
Course Objective
This course reinforces the knowledge and competence of the participants in the mechanical, electrical and electronic integrated as a mechatronic system aspect of typical operations in a manufacturing environment. This course provides participants to learn a mechatronics system controlled by PLC, to write PLC programs of multivalve groups and use PLC to troubleshoot and localize faults in complex control task with various actuators and sensors.

Target Group
Maintenance staff, technicians, engineers and trainers

Target Industry
Manufacturing Industry, Industrial Automation

Course Content
• Basic design of mechatronic control system:
  - Functional relationships between mechanical elements, pneumatics, electronics and PLC.
  - Input and output devices.
  - Interpret technical specifications and data relating to pneumatic, electro pneumatic, sensors, electrical and PLC components.
• Application of sensors: Proximity Optical, Inductive, Capacitive and Magnetic.
• Single valve to valve terminal technology.
• Understanding application of vacuum technology:
  - Vacuum Generator
  - Pressure Switch
  - Vacuum Filter
  - Suction Cup
  - Pressure regulator
• Understanding handling system with gripper technology:
  - Introduction to grippers
  - Classification of grippers
• Structuring and developing sequence control tasks into operation PLC programs using Codesys.
  - Logic functions
  - Sequence tasks
  - Timing Sequences
  - Counting sequences
  - Signal storage
  - Positive and Negative Edge trigger
• Simulation and programming based on IEC61131-3 standard
  - Ladder Diagram, Function Block Diagram and Sequential Function Chart
• Troubleshooting basic mechatronics system.
• Best practice commissioning - can avoid damage and failure in the case of user-specific errors through safe and precise intervention.

Course outcomes
• Can identify and describes the operation of pneumatic, electro-pneumatic, electrical and PLC components and sensors.
• Can assemble and test basic mechatronic circuits (pneumatics, electrical and software)
• Can programs and commissions a PLC control system.
• Can interpret the electrical and pneumatics circuit diagram and operation of PLC
• Can effectively use PLCs to identify, locate and troubleshoot failures in basic mechatronics system: mechanical, pneumatic and electrical faults.

Methodology
• Competency based
• State of the art teaching resources and facilities
• Individual and team skills development
• Video presentation
• simulation and practices

Prerequisites
Basic knowledge of PLC and pneumatic system (PN11 and PLC311)

Duration
4 days/ 28 hours

Certification
Certificate of Attendance will be awarded
Course Objective
This course reinforces the knowledge and competence of the participants in the mechanical, electrical and electronic integrated as a mechatronic system aspect of typical operations in a manufacturing environment. This course provides participants to learn a mechatronics system controlled by PLC, to write PLC programs of multivalve groups and use PLC to troubleshoot and localize faults in complex control task with various actuators and sensors.

Target Group
Maintenance staff, technicians, engineers and trainers

Target Industry
Manufacturing Industry, Industrial Automation

Course Content
• Basic design of mechatronic control system:
  - Functional relationships between mechanical elements, pneumatics, electronics and PLC.
  - Input and output devices.
  - Interpret technical specifications and data relating to pneumatic, electro pneumatic, sensors, electrical and PLC components.
• Application of sensors: Proximity Optical, Inductive, Capacitive and Magnetic.
• Single valve to valve terminal technology.
• Understanding application of vacuum technology:
  - Vacuum Generator
  - Pressure Switch
  - Vacuum Filter
  - Suction Cup
  - Pressure regulator
• Understanding handling system with gripper technology:
  - Introduction to grippers
  - Classification of grippers
• Structuring and developing sequence control tasks into operation PLC programs using CX-Programmer.
  - Logic functions
  - Sequence tasks
  - Timing Sequences
  - Counting sequences
  - Signal storage
  - Positive and Negative Edge trigger
• Simulation and programming based on IEC61131-3 standard
  - Ladder Diagram (LD)
• Troubleshooting basic mechatronics system.
• Best practice commissioning - can avoid damage and failure in the case of user-specific errors through safe and precise intervention.

Course outcomes
• Can identify and describes the operation of pneumatic, electro-pneumatic, electrical and PLC components and sensors.
• Can assemble and test basic mechatronic circuits (pneumatics, electrical and software)
• Can programs and commissions a PLC control system.
• Can interpret the electrical and pneumatics circuit diagram and operation of PLC.
• Can effectively use PLCs to identify, locate and troubleshoot failures in basic mechatronics system: mechanical, pneumatic and electrical faults.

Methodology
• Competency based
• State of the art teaching resources and facilities
• Individual and team skills development
• Video presentation,
• simulation and practices

Prerequisites
Basic knowledge of PLC and pneumatic system (PN11 and PLC312)

Duration
4 days/28 hours

Certification
Certificate of Attendance will be awarded
IND401  Introduction to Industry 4.0 and its core elements

Course Objective
Learn the key concepts of industry 4.0 and the driving technologies & its core elements

Target Group
Managerial and/or technical specialist position

Target Industry
Manufacturing Industry

Course Content
• Development of the industrial revolution
• Overview of the core elements – Manufacturing Execution System (MES)
  - Product identification with radio frequency identification RFID system
  - Vertical and horizontal integration
  - Machine to machine communication
  - Fundamental of industrial network technology
  - Worker assistance with augmented reality
• Social-technological developments and the consequences
• Competence development for Industry 4.0
• Change Management for Industry 4.0

Course outcomes
• Basic introduction of Industry 4.0 and the development of industrial revolution from Industry 1.0 to 4.0
• Understanding of the core elements of Industry 4.0
• The benefits of flexibility, versatility and modularity & decentralization of production control system in manufacturing
• The inter-connectivity of people, product and machines and its impact on manufacturing process changes

Methodology
• Practical-based training
• Competency based
• Group work
• Industry 4.0 ready teaching equipment
• Individual and team skills development
• Lecturers with extensive industry experience
• Video presentation

Prerequisites
Working experience in the industrial automation/manufacturing industry

Duration
2.5-3 days/ max. 21 hours

Certification
Certificate of Attendance will be awarded

IND402  Smart Manufacturing with Product Identification System

Course Objective
To learn the fundamentals of RFID technology & its benefits and applying it in manufacturing to enhance the flexibility in production configuration.

Target Group
Technical and/or engineer

Target Industry
Manufacturing Industry

Course Content
• Fundamentals of object identification system
• Selection of Radio Frequency Identification (RFID) system
• Getting familiar with reading and writing of RFID tag and the data format
• Identify the benefits of using RFID in production
• Applying RFID in manufacturing processes

Course outcomes
• Understand the fundamental and working principles of Radio Frequency Identification System
• Able to apply RFID system in manufacturing processes to enhance the flexibility in production control

Methodology
• Practical-based training with Industry 4.0 ready equipment
• Group work
• Competency based
• Lecturers with extensive industry experience
• Visual aid and power point presentation

Prerequisites
Basic industrial automation knowledge

Duration
2.5-3 days/ max. 21 hours

Certification
Certificate of Attendance will be awarded
General Information

Human Resource Development Fund (HRDF) / Pembangunan Sumber Manusia Berhad (PSMB)

The Human Resources Development Fund (HRDF) is administered by Pembangunan Sumber Manusia Berhad (PSMB), an Agency under the Ministry of Human Resources, via the Pembangunan Sumber Manusia Berhad Act, 2001. The objective of the HRDF is to encourage employers covered under the Pembangunan Sumber Manusia Berhad Act, 2001 to retrain and upgrade the skills of their employees, apprentices and trainees in line with their business needs and the development strategy of the country. The HRDF spearheads the upskilling of Malaysian workforce by increasing the rate of financial assistance to 110% effective 1 January 2013. Employees with no formal education but have obtained the relevant knowledge, experience and expertise in the workplace will also be certified based on their competency levels (Sijil Kemahiran Malaysia - SKM, Diploma Kemahiran Malaysia - DKM or Diploma Lanjutan Kemahiran Malaysia - DLKM) under the Recognition of Prior Learning Scheme.

Eligibility for Training Grant

Employers registered and/or incorporated in Malaysia who have registered with PSMB and pay the HRD levy immediately upon registration are eligible to apply for training grants (financial assistance) to defray all or a major portion of the “allowable costs” of training their employees. Training must be in the area of direct benefit to their business operations. Financial assistance is, therefore, not given to individuals who enrol and finance their own training programmes, whether partially or fully, and subsequently requested for reimbursement from their employers. Neither is financial assistance given to employers who bear the cost of training after the successful completion of training by their employees.

Training Assistance Scheme (SBL Scheme)

Skim Bantuan Latihan (SBL), is the main scheme under Human Resource Development Fund (HRDF). Under this scheme, employers are free to identify their own training needs and to implement their training programmes to retrain and upgrade their employees’ skills in line with their operational and business requirements. SBL is offered based on these fundamental guidelines such as:-

- HRDF provide specialized training grant as an incentive for employers to retrain and upgrade workers’ skills, in line with the needs of their business requirement. Training grant is not a subsidy for training;
- Under SBL Scheme, employers are to identify their workers’ training needs and obliged to pay fully the training programme; and
- For programmes under the SBL Scheme, prior approvals must be obtained from HRDF. Reimbursement of allowable training costs is based on the rate of financial assistance as determined by HRDF from time to time. Payment is based on EMPLOYER CLAIM.

Claim for Training Grants

Claim for training grants will be paid based upon completion of the training program. Employers and training providers claim form must be submitted via online application available from HRDF website. To avoid any delays in processing claims, employers should ensure that the form is complete and correct. Relevant receipts must also be included. All copies of receipts or supporting documents must be certified by the employer. Claims must be submitted upon completion of training and all costs have been paid. If the program could not be claimed in the current year, it shall be submitted no later than June 30 next year. Payment shall not be made if the trainees do not fully follow the training program. A trainee is considered to have been completed the training program if he has followed at least 75% of it and sits for all exams / tests, if required.
Festo Didactic Malaysia Policy

Withdrawal and Refund Policy
In writing:
• If notice of withdrawal is given 10 working days or more before the course starts – 100% refund
• If notice of withdrawal is given less than 10 working days or more before the course starts – 70% refund
• If notice of withdrawal is given 3 working days or less before the course starts – No refund
• If participant fail to show up for the course – No refund

Replacement
Any request for replacement of participants must be made in writing and received at least 3 working days before course commencement date. No replacement is allowed once the course has commenced.

Deferment
Any request for deferment of course must be made in writing and received at least 7 working days before course commencement date. No deferment is allowed once the course has commenced.

In-house Training
To ensure learning success for the participants a maximum group of 18 participants is accepted at any one course.

Contact Us

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