



Technology Training that Works

TRAINING COURSES

CHEMICAL ENGINEERING

| | Days | Course Code |
|--|-------------|--------------------|
| Practical Fundamentals of Chemical Engineering | 2 | CE |
| Handling Chemicals and Chemical Processes - Tips, Tricks and Tools | 2 | CH |

CIVIL ENGINEERING

| | Days | Course Code |
|---|-------------|--------------------|
| Designing, Specifying and Constructing with Modern Concrete | 2 | CT |
| Hazardous Waste Management and Pollution Prevention | 2 | HW |
| Structural Design for Non-Structural Engineers | 2 | SD |
| Best Practice in Sewage and Effluent Treatment Technologies | 2 | SE |
| Transportation Planning and Management | 2 | TN |

DATA COMMUNICATIONS & NETWORKING

| | Days | Course Code |
|--|-------------|--------------------|
| Setting Up, Understanding and Troubleshooting of Industrial Ethernet and Automation Networks | 2 | AN |
| Best Practice in Industrial Data Communications | 2 | BP |
| Troubleshooting, Designing and Installing Digital and Analog Closed Circuit TV Systems | 2 | CU |
| Practical Data Communications & Networking for Engineers & Technicians | 2 | DC |
| Practical DNP3, 60870.5 & Modern SCADA Communication Systems | 2 | DN |
| Hands-on Data Communications, Networking and TCP/IP Troubleshooting | 2 | DT |
| Practical Troubleshooting & Problem Solving of Ethernet Networks | 2 | ET |
| Practical FieldBus and Device Networks for Engineers and Technicians | 1 | FB |
| Practical Fieldbus, DeviceNet and Ethernet for Industry | 2 | FE |
| Practical Use and Understanding of Foundation FieldBus for Engineers and Technicians | 1 | FF |
| Practical Fibre Optics for Engineers and Technicians | 2 | FO |
| Practical Fibre Optics and Interfacing Techniques to Industrial Ethernet and Wireless | 2 | FX |
| Data Communications, Networking and Protocols for Industry - Back to Basics | 2 | IC |
| Practical Troubleshooting & Problem Solving of Industrial Data Communications | 2 | ID |
| Practical Troubleshooting, Design & Selection of Industrial Fibre Optic Systems for Industry | 2 | IF |
| Practical Industrial Networking for Engineers & Technicians | 2 | IN |
| Troubleshooting Industrial Ethernet & TCP/IP Networks | 2 | IT |
| Practical Troubleshooting and Problem Solving of Modbus Protocols | 2 | MB |
| Practical Essentials for NT 4.X | 2 | NE |
| Practical Radio Telemetry Systems for Industry | 2 | RM |
| Practical Routers & Switches (including TCP/IP and Ethernet) for Engineers & Technicians | 2 | RS |
| Practical Routers & Switches for Engineers & Technicians | 1 | RT |
| Practical TCP/IP and Ethernet Networking for Industry | 2 | TC |
| Practical Fundamentals of Telecommunications and Wireless Communications | 2 | TE |
| Practical TCP/IP Troubleshooting & Problem Solving for Industry | 3 | TP |
| Practical Troubleshooting of TCP/IP Networks | 2 | TT |
| Practical Fundamentals of Voice over IP (VoIP) for Engineers and Technicians | 2 | VO |
| Practical Industrial Wireless for Engineers and Technicians | 2 | WC |
| Practical Wireless, Ethernet and TCP/IP Networking | 2 | WE |

ELECTRICAL

| | Days | Course Code |
|--|-------------|--------------------|
| Practical Energy Efficiency, Design, Engineering and Auditing Part 1 | 2 | AE1 |
| Practical Energy Efficiency, Design, Engineering And Auditing Part 2 | 2 | A |
| Practical Arc Flash Protection for Electrical Safety Professionals | 2 | AF |
| South African Standard SANS 10142 - The Wiring of Premises | 2 | AS |
| Practical Electrical Wiring Standards - AS 3000:2007 | 2 | AW |
| Practical Maintenance & Troubleshooting of Battery Power Supplies | 2 | BT |
| Standby Power and Energy Efficiency | 2 | BY |
| Practical Electrical Network Automation & Communication Systems | 2 | CA |
| Safe Operation and Maintenance of Circuit Breakers and Switchgear | 2 | CB |
| Practical HV Cable Jointing & Terminations for Engineers and Technicians | 2 | CJ |
| Critical Power Supply Options and Planning of High Availability Supplies | 1 | CV |
| Operation and Maintenance of Diesel Power Generating Plants | 2 | DG |
| Emergency Power Supplies: Electrical Distribution Design, Installation and Commissioning | 2 | EA |
| Troubleshooting, Maintenance & Protection of AC Electrical Motors and Drives | 2 | ED |
| Practical Energy Efficiency, Design, Engineering and Auditing | 2 | EE |
| Practical Electrical Safety Techniques for Industry | 2 | EF |
| Inspection, Testing and Commissioning of Electrical Switchboards, Circuit Breakers, Protective Relays, Cables and PLCs | 2 | EK |
| Practical Troubleshooting of Electrical Equipment and Control Circuits | 2 | EL |
| Electrical Power System Fundamentals for Non-Electrical Engineers | 2 | EN |
| Practical Earthing, Bonding, Lightning & Surge Protection | 2 | ER |
| Practical Distribution & Substation Automation (incl. Communications) for Electrical Power Systems | 2 | EU |
| Practical Electrical Substation Safety for Engineers and Technicians | 2 | EV |
| Electrical Drawings and Schematics | 2 | EW |
| Electrical Equipment Selection, Applications, Operations, Diagnostic Testing and Troubleshooting | 2 | EZ |
| The Fundamentals of Power Distribution and Power Systems: Hands-on Practical Analysis and Design | 2 | FP |
| Grounding of Utility and Industrial Distribution Systems | 1 | GU |
| HV Circuit Breaker Operating Mechanisms - Hydraulic Systems | 2 | HH |
| Practical HV and LV Switching Operations and Safety Rules | 2 | HL |
| HV Circuit Breaker Operating Mechanisms - Pneumatic & Compressor Systems | 2 | HP |
| High Voltage Safety Operating Procedures for Engineers and Technicians | 2 | HV |
| Practical Electrical Wiring Standards - National Rules for Electrical Installations - ET 101:2008 | 2 | IW |
| Lightning, Surge Protection & Earthing of Electrical & Electronic Systems in Industrial Networks | 2 | LZ |
| Master Series - Electrical Engineering | 4 | MEE |
| Fundamentals of Smart Metering | 2 | MF |
| Practical Motor Protection, Control and Maintenance Technologies | 2 | MP |
| Electrical and Instrumentation (E&I) Engineering for Oil and Gas Facilities | 5 | OG |
| Practical Power Cabling and Earthing | 2 | OW |
| Practical Power Distribution | 2 | PD |
| Practical Power System Harmonics, Earthing and Power Quality - Problems and Solutions | 2 | PH |
| Power Cables: Operation, Maintenance, Location and Fault Detection | 2 | PO |
| Practical Power Quality: Problems & Solutions | 2 | PQ |
| Practical Power System Protection for Engineers and Technicians | 2 | PS |
| Electrical Maintenance for Engineers and Technicians | 2 | RC |
| Wind & Solar Power - Renewable Energy Technologies | 2 | RE |
| Installing, Programming and Commissioning of Power System Protection Relays and Hardware | 2 | RH |
| Switchgear and Distribution Systems | 2 | SW |
| Practical Power Transformers: Operation, Maintenance & Testing | 2 | TF |
| Installation, Testing and Troubleshooting of Transformers | 1 | TG |
| Practical Medium & High Voltage Testing of Electrical Equipment for Engineers and Technicians | 2 | TH |
| Understanding Electrical Engineering and Safety for Non-Electricians | 2 | UE |
| Maintenance and Troubleshooting of Uninterruptible Power Supply (UPS) Systems & Batteries | 2 | UP |
| Earthing of Utility and Industrial Distribution Systems | 2 | US |
| Medium Voltage AC Motors for the Power Industry-Working Principles, Installation, Maintenance & Troubleshooting | 2 | VM |
| Practical Variable Speed Drives for Instrumentation and Control Systems | 2 | VS |
| Practical Electrical Wiring Standards - IEE BS7671:2008+A1:2011 Edition | 2 | WR |

ELECTRONICS

| | Days | Course Code |
|--|-------------|--------------------|
| Practical Digital Signal Processing for Engineers and Technicians | 2 | DS |
| Practical Embedded Controllers: Troubleshooting and Design | 2 | EB |
| Practical Troubleshooting of Electronic Circuits for Engineers and Technicians | 2 | EI |
| Practical EMC and EMI Control for Engineers and Technicians | 2 | EM |
| Practical Earthing, Shielding, Electrical & Electronic Noise and Surge Reduction | 2 | EX |
| Practical Industrial Electronics for Engineers and Technicians | 2 | IE |
| Power Electronics and Switch Mode Power Supply | 2 | PE |
| Practical Shielding, EMC/EMI, Noise Reduction, Earthing and Circuit Board Layout | 2 | SG |

INFORMATION TECHNOLOGY

| | Days | Course Code |
|--|-------------|--------------------|
| Industrial Network Security for SCADA, Automation, Process Control and PLC Systems | 2 | NS |
| SNMP Network Management: The Essentials | 2 | SN |
| Practical Fundamentals of E-Manufacturing, MES and Supply Chain Management | 2 | SO |

INSTRUMENTATION, AUTOMATION & PROCESS CONTROL

| | Days | Course Code |
|---|-------------|--------------------|
| Programmable Logic Controllers (PLCs) And Scada Systems | 2 | AD |
| Practical Analytical Instrumentation in On-Line Applications | 2 | AI |
| Practical Alarm Systems Management for Engineers and Technicians | 2 | AM |
| Practical Advanced Process Control for Engineers and Technicians | 2 | AP |
| Practical Alarm Management for Engineers and Technicians | 1 | AT |
| Practical Programmable Logic Controllers (PLCs) for Automation and Process Control | 2 | AU |
| Practical Batch Management & Control (Including S88) for Industry | 2 | BA |
| Practical Boiler Control and Instrumentation for Engineers and Technicians | 2 | BI |
| Fundamentals of Practical Building Automation Systems | 2 | BS |
| Installation, Calibration and Maintenance of Electronic Instruments | 2 | CD |
| Practical Distributed Control Systems (DCS) for Engineers & Technicians | 2 | DD |
| Integrated Programming, Maintenance, Troubleshooting and Optimisation of the Drill Monitor System (DMS) | 2 | DM |
| Practical Data Acquisition using Personal Computers and Standalone Systems | 2 | DQ |
| Best Practice in Process, Electrical & Instrumentation Drawings and Documentation | 2 | DR |
| Practical Troubleshooting of Data Acquisition & SCADA Systems | 2 | DX |
| Introduction to the Selection, Installation, Commissioning and Maintenance of Fiscal Flow and Metering Equipment | 2 | FA |
| Design of Industrial Automation Functional Specifications for PLCs, DCSs and SCADA systems | 1 | FC |
| Practical Industrial Flow Measurement for Engineers and Technicians | 2 | FL |
| Practical Flow Essentials | 3 | FT |
| Practical Industrial Flow Measurement for Engineers and Technicians | 0 | FW3 |
| Practical Hazops, trips and alarms | 2 | HO |
| Practical Hazops for Engineers and Technicians | 2 | HT |
| Practical Hazardous Areas for Engineers and Technicians | 2 | HZ |
| Fundamentals of Industrial Automation | 2 | IB |
| Practical Instrumentation for Automation and Process Control | 2 | IP |
| Practical Intrinsic Safety for Engineers and Technicians | 2 | IS |
| Practical Drives, Motors & PLCs for Engineers and Technicians | 2 | LC |
| Practical Tuning of Industrial Control Loops | 2 | LT |
| Practical Motion Control for Engineers and Technicians | 2 | MC |
| Master Series - Instrumentation & Control | 4 | MIC |
| Practical Machine Vision Applications in Industry | 2 | MV |
| Practical Mechatronics for Engineers and Technicians | 2 | MZ |
| Measurement and Control for Non-Instrument Personnel | 2 | NI |
| Practical Fundamentals of OPC | 1 | OC |
| Practical Fundamentals of OPC | 2 | OP |
| Practical Process Control | 2 | PC |
| Practical Process Control & Tuning of Industrial Control Loops | 3 | PL |
| Practical Industrial Programming using 61131-3 for PLCs | 2 | PR |
| Practical Process Control for Engineers and Technicians | 1 | PY |
| RFID Tagging - Features and Applications | 2 | RF |
| Practical SCADA & Telemetry Systems for Industry | 2 | SC |
| Practical Industrial Safety, Risk Assessment and Shutdown Systems for Industry | 2 | SI |
| Practical Troubleshooting and Problem Solving of PLCs and SCADA Systems | 2 | SK |
| Fundamentals of Instrumentation, Process Control, PLCs and SCADA for Plant Operators and Other Non-Instrument Personnel | 2 | SQ |
| Practical Safety Instrumentation & Emergency Shutdown Systems for Process Industries | 2 | SS |

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| Practical SCADA Systems for Industry | 2 | SX |
| Practical Industrial Troubleshooting of Instrumentation, Electrical and Process Control for Engineers and Technicians | 2 | TI |
| Practical Control Valve Sizing, Selection and Maintenance | 2 | VL |

MECHANICAL ENGINEERING

| | Days | Course Code |
|---|-------------|--------------------|
| Practical Fundamentals of Heating, Ventilation & Airconditioning (HVAC) for Engineers & Technicians | 2 | AC |
| Practical Boiler Plant Operation and Management for Engineers and Technicians | 2 | BL |
| Practical Boiler Plant Operation and Management for Engineers and Technicians | 3 | BX |
| Best Practice Design, Maintenance and Troubleshooting of Conveyors and Chutes | 2 | CC |
| Practical Pumps and Compressors: Control, Operation, Maintenance & Troubleshooting | 2 | CM |
| Practical Process Compressors | 2 | CO |
| Practical Cleanroom Technology and Facilities for Engineers and Technicians | 2 | CR |
| Practical Conveyor, Chute and Feeder Design | 1 | CX |
| Gas Turbines: Fundamentals, Maintenance, Inspection & Troubleshooting | 2 | GT |
| Practical Hydraulic Systems: Operation and Troubleshooting | 2 | HD |
| Rigid and Flexible Hose Connections | 2 | HS |
| Practical Hydraulic & Pneumatic Systems: Operations and Troubleshooting | 2 | HY |
| Practical Lubrication Engineering for Engineers and Technicians | 2 | LB |
| Practical Safe Lifting Practice and Maintenance | 2 | LF |
| Practical Mechanical Drives (Belts, Chains and Gears) for Engineers & Technicians | 2 | MD |
| Fundamentals of Mechanical Engineering | 2 | ME |
| Practical Balancing, Alignment and Condition Monitoring of Rotating Equipment | 2 | MM |
| Mechanical Design Concepts for Non-Mechanical Engineers | 2 | MW |
| Practical Corrosion Management | 2 | MY |
| Pipeline Systems - Design, Construction, Maintenance and Asset Management | 2 | PA |
| API Program - Body of Knowledge Foundation Course | 4 | PK |
| Practical Fundamentals of Pneumatics: Operation and Troubleshooting for Engineers & Technicians | 2 | PN |
| Practical Pumps - Design, Operation and Maintenance for Centrifugal and Positive Displacement Pumps | 2 | PP |
| Fundamentals of Process Plant Layout and Piping Design | 2 | PT |
| Performance Monitoring of Pumps and Compressors | 2 | PU |
| Root Cause Analysis | 2 | RA |
| Fundamentals of Pipe Stress Analysis with Introduction to CAESAR II | 2 | SA |
| Practical Machinery and Automation Safety for Industry | 2 | SF |
| Practical Mechanical Seals - Selection, Maintenance and Troubleshooting | 2 | SM |
| Safety Relief Valves: Inspection, Operation and Troubleshooting | 3 | SV |
| Reliability Centered Maintenance | 2 | TY |
| Practical Machinery Vibration Analysis and Predictive Maintenance | 2 | VB |

PROJECT & FINANCIAL MANAGEMENT

| | Days | Course Code |
|---|-------------|--------------------|
| The Practical Business Engineer | 2 | BE |
| Practical Financial Fundamentals & Project Investment Decision Making | 2 | FM |
| How to Manage Consultants | 2 | HC |
| Applying E-Learning to Boost the Return on Your Engineering Training | 1 | IQ |
| Engineering Leadership - Making the Transition from Engineer to Leader | 2 | LA |
| Leading Your Engineering Team to Top Performance | 2 | LE |
| Practical Marketing for Technical Professionals | 1 | MK |
| People Management Skills for Technical Professionals | 2 | PJ |
| Practical Project Management for Engineers and Technicians and Technicians | 2 | PM |
| Practical Shutdown & Turnaround Management for Engineers and Managers | 2 | SH |
| Train the Trainer - Presentation and Instructing Skills for Engineers and Technical Professionals | 2 | TR |
| Practical Specification and Technical Writing for Engineers and Technical People | 2 | TW |

For training subjects not listed above, detailed outlines or for information on IDC Engineering Specialist Consultancy Services please e-mail us: idc@idc-online.com