



PIC Engineering & Services

Practical Training Course

Practical Training Course

INSTRUMENTATION & PROCESS CONTROL

Entry Level: 3 Days

Intermediate Level: 3 Days

Advance Level: 5 Days

"This training course emphasize on

•giving participants an overview, understanding and hands-on...."

•Build on the basic knowledge and provide hands on start up commissioning...."

•Design to teach skills for selecting, maintaining, calibrating and troubleshooting of instrumentation..."



You will learn :

- ✓ Latest technological advances in process monitoring, control and automation.
- ✓ Understanding of control system in plant.
- ✓ Improve plant productivity.

Who should attend :

- ✓ Managers, Engineers
- ✓ Non Instrument related personnel
- ✓ Mechanical & Process Technicians
- ✓ Chemical & Process Trainee Engineer
- ✓ All personnel involved in the design, selection, operating, maintenance, troubleshooting, repair operations.
- ✓ All maintenance, engineering operations personnel involved in improving reliability, conditioning monitoring and maintainability of process equipment and systems.

Specially designed to:

- ✓ Understanding of automation control & process characteristics.
- ✓ Determine application of various type of measurement devices & control equipment.
- ✓ Determine relevant industry codes, standards, documents and guidelines to apply. i.e. Palm oil, oleo-chemical industries.
- ✓ Practical knowledge about instrumentation & Control valves.
- ✓ Install process equipment correctly.
- ✓ Troubleshoot instrumentation systems and control valves.
- ✓ Correctly select and size control valves for industrial use.
- ✓ Correct maintenance procedures.
- ✓ Establish & document calibration procedures
- ✓ Troubleshoot equipment.

Contact us for a Free Proposal:

PIC Engineering And Services (002110838-X)

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Selangor D.E., Malaysia Tel: +6019 338 8819 Fax: +603 3343 8819

Email: sales@picengineering.com.my Website: www.picengineering.com.my

Theory - Background - Basic Knowledge Entry Level: 3 Days

Day 1	Day 2	Day 3
1 Introduction <ul style="list-style-type: none"> Basic concepts in Instrumentation & control Overview of Pressure, levels, temperatures and flows Control Valves 	1 Pressure Measurements <ul style="list-style-type: none"> Gauge and absolutes Manometer Pneumatic or mechanical Pressure Sensor & Transmitter Pressure Engineering units 	1 Flow Measurement <ul style="list-style-type: none"> Types of flow techniques Flow Engineering units
2 Introduction to Instrumentation & Process Control <ul style="list-style-type: none"> Process Measurements Evaluation & Control Examples of Drawings 	2 Level Measurements <ul style="list-style-type: none"> Gauge glass level measurement Electrical & Electronic level sensor Remote display level indicator Level Engineering units 	2 Analytical Measurement <ul style="list-style-type: none"> Conductivity, pH, Do and humidity measurement Gas Analysis Measurement applications
3 Introduction to Process Control & loops <ul style="list-style-type: none"> Block diagrams Process controller 	3 Temperature Measurements <ul style="list-style-type: none"> Temperature Gauges Types of Sensors Temperature Engineering Units 	3 Final Control Elements <ul style="list-style-type: none"> Control Valve Pump Control Agitator Louver Control Inverter
4 Process Characteristics <ul style="list-style-type: none"> Theoretical concepts of Physical systems Electrical, liquid thermal 		

Note : Intermediate and Advanced Level Courses are available as per request.

Process Instrumentation, Calibration & Verification 3 Days	Control Valve Theory Maintenance & Testing 3 Days	Boiler Instrumentation Operation & Maintenance 4 Days
Day 1	Day 1	Day 1
1 Introduction <ul style="list-style-type: none"> Process Instrumentation & measurement Why Calibration ? What is Metrology? Calibration Standards & Procedures 	1 Introduction <ul style="list-style-type: none"> Control Valve Control Valve Terms, Codes and Standards Control Valve Body & trim Material Selection Control Valve Actuators 	1 Introduction <ul style="list-style-type: none"> Basics & Various Types Types of Steam & its Application Heat Transfer & its applications Identifying Boiler Auxiliary or Support Equipment.
Day 2	Day 2	Day 2
2 Calibration(s) <ul style="list-style-type: none"> Calibration of Temperature Calibration of Pressure Calibration of Flow Calibration of Electrical Signal 	2 Accessories & Selection <ul style="list-style-type: none"> Hand Wheel, Solenoid Valve Sizing, Noise, Cavitation Application & Safety Installation & Commissioning 	2 Boiler Utilities <ul style="list-style-type: none"> Feed water system Instrumentation & Control Draft & Combustion Instrumentation & Control Local Indicators & Control Equipment
Day 3	Day 3	Day 3
3 Calibration(s) <ul style="list-style-type: none"> Calibration of Weight Calibration of Humidity Wet & Dry Calibration Verification Calibration Management & Software 	3 Service & Troubleshooting <ul style="list-style-type: none"> Body & Seat Leakage Testing Positioner Calibration Maintenance 	3 Operation <ul style="list-style-type: none"> Steam Boiler Instrumentation Operation Boiler Safety & Protection Maintenance & preparation for inspection Conversion Steam Boiler
		Day 4
		4 Operation <ul style="list-style-type: none"> Deaerator For Feedwater instrumentation & Control Conventional Condensate Recovery instrumentation & Control Steam Regeneration, Flash Vessel, Boiler blowdown instrumentation & Control

Mr. Wang Gee Kiang has more than 25 years of vast industry experience in instrumentation & process control. He started out as an instrument & electrical technician with Mobil Oil Refinery in Singapore (currently known as ExxonMobil) before moving on to various engineering companies as a project & service engineer/manager, taking care of a wide range of projects in process control & automation packages.

He was then assigned to market various instrumentation products from Japanese controller & recorder to a broad range of European & US manufacturers' instruments and control valves. With his extensive knowledge & experiences in instrumentation, he was appointed by a German MNC to set up their Malaysia operation branch dealing with full range of instrumentation products & services.

Mr Wang started his own firm in 1991, initially dealing with instrumentation and control equipment. He then slowly ventured into receiving contracts in service & calibration of mission-critical equipment. He also started his regional consultancy projects with overseas manufacturers who are interested to expand their operation into South East Asia (SEA), using Malaysia as their base. With his know-how in the instrumentation industry, plus extensive regional market experience, he had helped few MNCs in developing their SEA market-share by securing various total-package-solution projects in instrumentation & control system.

Due to his wide exposures & involvement working with these MNCs regional business expansion, he had developed a series of specialized training modules for their SEA distributors to strengthen their product knowledge in instrumentation & process control. To date, Mr Wang had conducted numerous technical seminars, workshops & road shows, both locally & regionally.

Dear Value Customer,

For further enquiry, please do not hesitate to contact us directly call to: +6019 338 8819 or fax to: +603 3343 8819 or e-mail to: sales@picengineering.com.my



IPC Customer Reference



TENAGA NASIONAL BERHAD
 +Sultan Iskandar Power Station,
 Pasir Gudang
 +Power Station Gelugor, P.Pinang



IPP, Pasir
 gudang



CAHYA MATA SARAWAK

CMS Clinker Sdn Bhd

A Sarawak's sole clinker manufacturer and
 trader. Owned by CMS Cement Sdn Bhd,
 which is part of the Cahya Mata Sarawak
 Group of companies



UTM
 UNIVERSITI TEKNOLOGI MALAYSIA

Engineering and Technological University



Western Digital
 US based hard disk
 drive (HDD)
 manufacturer



a subsidiary of **mt sc**



CABOT

Cabot (Malaysia) Sdn Bhd A
 company that serving the
 carbon black needs of tire,
 industrial rubber manufacturers
 in Malaysia and Asia Pacific
 markets.



Esterol Sdn Bhd

Food emulsifiers
 Manufacturer,
 subsidiary of
 Kerry Group plc.



POLIMAS
 POLYMER RESEARCH AND DEVELOPMENT



Jabatan Tenaga Manusia

**Institut Latihan
 Perindustrian,
 Kepala Batas**



Rikevita

**RIKEVITA (MALAYSIA) SDN
 BHD**

The first overseas plant of
RIKEN VITAMIN of Japan



IOI GROUP

IOI Edible Oils Sdn Bhd
IOI Bio Energy Sdn Bhd



**Norsechem (Sabah) Sdn.
 Bhd**



KERTIH TERMINALS
 Leading tank terminal
 company for
PETRONAS
 Petrochemical
 Integrated Complex



Ranhill

A oil and gas production,
 infrastructure investment,
 power plant design &
 engineering & industrial
 water treatment company



JIMAH O & M SDN BHD
 630135-T
 IPP Port Dickson,
 Negeri Sembilan



Produce of beer
 & Stout include
 Tiger and
 Heineken brand



Cytec Industries

US-based specialty
 chemicals
 manufacturer



**CHEMICAL COMPANY
 OF MALAYSIA**



**Kemaman Bitumen
 Company Sdn Bhd**
 operating an oil refinery in
 Kemaman, Terengganu,
 primarily to produce
 bitumen and other oil
 products



Sarawak Shell Berhad



Continental Tyres

A wholly owned subsidiary
 of Continental AG & 4th
 largest tyre manufacturer
 worldwide



take it further.
 is a world leader in
 project management,
 engineering and
 construction for the
 energy industry.



Palm Oleo Rawang Sdn Bhd

a leading global player in
 oleochemical industry, producing a
 wide range of vegetable oil-based.



DANISCO.

Dupont Danisco
 Specialty for Bioprotein Food
 Industry

Southern Acids (M) Berhad

Oleochemical producer and a
 Southern Group of companies.



MNFSB is a subsidiary
 fertilizer company of
NAFAS (Pertubuhan
 Peladang Kebangsaan)



Royal Australian Air force

B | BRAUN
 SHARING EXPERTISE

B. Braun Medical Industries Sdn Bhd
 a worldwide company that supplying
 surgical, pharmaceutical and healthcare
 management products.



One of the world's
 largest Oleochemicals
 producer with a
 worldwide distribution.



Enriching lives through innovation

Huntsman Pigments



**Malayan Sugar Manufacturing
 Co Bhd**

incorporated with the mission to
 set up a sugar refinery in
 Malaysia.



**M3ENERGY FPSO
 Perintis**

Oil & Gas Exploration
 and Production
 services Company