UTM UNIVERSITI TEKNOLOGI MALAYSIA
Institute of Bioproduct Development
Chemical Engineering Pilot Plant

MS ISO/IEC 17025 TESTING SAMM NO. 433

Steinbeis Malaysia Foundation

HRDF CLAIMABLE

A 3 day module on

ENGINEERING Knowledge and Best Practices for Steam and I.C.E Engineers (PART B)

7 - 9 May 2018 | 21 - 23 November 2018

IBD UTM Kuala Lumpur

COURSE OBJECTIVES

- All participants will be exposed to the engineering knowledge, technical information and recent trend in relation to steam plant industries.
- Enhance knowledge in engineering systems especially in relation to mechanics, strength of material, thermodynamic and steam generation.
- Upgrading knowledge and skill in engineering theoretical analysis for steam related system and applications for the best practices.
- To prepare participants for the Part B (Engineering Knowledge) for Steam and Internal Combustion Engine Engineers written examination as conducted by the Jabatan Keselamatan dan Kesihatan Pekerjaan (JKKP/DOSH).

WHO SHOULD ATTEND

- Personnel who are in the process of applying Steam Engineer and Internal Combustion Engineers Competency Certification.
- Professional who are interested to review, enhance or broaden their understanding and skill in engineering theoretical analysis and problem solving for steam plant, as well as oil and gas industry.

COURSE CONTENT

DAY 1

1. Applied Mechanics – System of unit, physical and engineering quantity, application in engineering practice, energy and power transformation.
2. Engineering Materials – Type of materials, properties and behaviour, stress and strain, shear and torsion, specification and standard, selection of material for pressure vessel and high pressure pipe.
3. Testing of Materials – Types of material testing (tensile, Izod and Charpy, hardness (Vickers, Brinell), fatigue), method and procedure, interpretation of test results.
4. Welding Technology – SMAW, GTAW, GMAW, FCAW, SAW, ESW, MPW, welding defect and inspection
5. Heat Treatment – Function, iron-carbon diagram and properties, annealing, normalising, quenching, case hardening, stress relieving, alloy and their effect.

DAY 2

1. Non Destructive Test (NDT) – What is NDT and Destructive Test (DT)? Dye Penetrant Test (DPT), Magnetic Particle Inspection (MPI), Radiographic Test, (RT), Ultrasonic Test (UT), Hydrostatic Test (HT).
2. Steam System – Steam generation, thermodynamic cycle and properties, saturated and superheated steam, application of steam table and charts
3. Boiler Technology – Type and classification, hot water, steam boiler and thermal oil heater, boiler construction and component, fire and water tube, heating surface and steam capacity, installation and testing, water and heat circulation boiler operation, sample calculation.
4. Boiler Water Treatment – Type of treatment, external and internal treatment, water impurity and quality, water chemical and dosage, filter, softener, thermal and vacuum deaerator.

DAY 3

1. Fuel and Combustion – Type of fuels and carbon series, calorific value, type of mixture (lean-rich), stoichiometric combustion, chemical reaction in combustion, residual
2. Turbine Technology – Type and classification of turbines, steam and gas turbine, renewable energy - hydropower and wind turbines, impulse and reaction turbines, steam turbine with reheat cycle, sample calculation
3. Engineering Fabrication Methods – Machining, Casting, Forming, Rolling, Forging, Welding, Extrusion, Cold and Hot Work,
4. Corrosion and Control – Type and mechanism, protection, control and prevention

COURSE TUTOR

Assoc. Prof. Ir. YAHAYA RAMLI (MIEM, P.Eng)

Yahaya Ramli is an Associate Professor at the Department of Thermo-Fluid, Faculty of Mechanical Engineering, Universiti Teknologi Malaysia (UTM). His field of specialization is fluid mechanics and fluid power systems (hydraulic & pneumatic). Prior to join as an academician, he has several year of practical experience in various technical and management level in palm oil, electronic and petroleum industries. He has involved in installation, operation and maintenance of boilers, steam turbines and generator set (I.C.E), pump and compressors while working in FELDA mill, Sobena Offshore Inc., and PETRONAS Gas. Graduated from MARA Institute of Technology (ITM) in Mechanical Engineering and obtained his MSc (Fluid Power Systems) from University of Bath, U.K.

He is a Professional Engineer (P.Eng) registered with the Board of Engineers, Malaysia (BEM) and a Cooperate Member (MIEM) of the Institute of Engineers, Malaysia (IEM). He is a registered trainer with the Pembangunan Sumber Manusia Berhad (PSMB). He has trained personnel from numerous international and local companies, and government departments including Qatar Petroleum (QP), SHELL (Singapore and P.Dickson), ESSO, Loadstar Private Limited (Sri Lanka), Singapore Public Utility Board (PUB), Khartoum Refinery (KRC) Sudan, Al-Kahfi (Saudi Arabia), Talisman Inc., PETRONAS, TITAN, Torrey-BASF, Optimal (Paka), MTBE (Gebeng), MECI (Prai), PROTON, PERODUA, Golden Hope Plantation, Tabung Haji Plantation, FELDA, IOI, Asiatic, Gold Coin, FMM, FLEXSYS (USA), TEXAS Instrumentation, MIMOS, Sime Darby Group, Sapura-Kencana, TNB, Sabah Electric, Kedah and Melaka Water Work, DBKL, IJN, SMC (Subang), Royal Malaysian Police (Marine), Royal Malaysian Army and Navy, North and West Port Bhd, Bintulu Port, MARA, UniKL, UTP, UTHM, UMP, UPM, Perlis Power Plant, Teknik Janakuasa (Malakof), PowerTek (Tanjung), MMHE, Johore Corp., Boustead Naval Shipyard (Lumut), Rapid K.L, and other petrochemical and electronic companies. Beside teaching and training activities, he has appointed as a consultant and technical advisor to several mechanical installation and recreational projects. Active in publication work, he has published several books and conference papers in field of mechanical and plant engineering. He has published several technical books including of Sistem Pencegahan Kebakaran (2011), Introduction to Compressed Air Systems (2010), Hidraulik dan Pneumatik (2005) and Fluid Power Systems (1996).

For more information, please contact **www.ibd.utm.my**

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Staff from more than 700 local and overseas companies have attended our life-long learning programmes

Some of these companies are :

PETRONAS, SHELL, BP, SAUDI ARABIA BASIC IND. CORP. (SABIC), QATAR LNG, ALMARAI (SAUDI ARABIA), IDEMITSU, EASTMAN CHEMICALS, BASF PETRONAS, KUWAIT INSTITUTE OF SCIENTIFIC RESEARCH, KHARTOUM REFINERY, LOADSTAR (Sri Lanka) etc.

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UTM Kuala Lumpur is situated about 10 minutes drive from the famous Kuala Lumpur landmark, the PETRONAS TWIN TOWER and KLCC, the prime shopping centre. It is easily accessible by road and major hotels

Engineering Knowledge and Best Practices for Steam and I.C.E Engineers (Part B)
IBD UTM Kuala Lumpur

Please tick (✓) where appropriate

( ) 7 - 9 May 2018 ( ) 21 - 23 November 2018

YES! I would like to register the following participants

Name 1

Job Title

Name 2

Job Title

COMPANY INFORMATION

Company

Address

Town

State

Tel Fax

Email

Authorised Signatory (*This registration is invalid without signature from an authorised officer)

Name

Job Title

Tel Fax

Email

Signature

COURSE FEE

Fee is inclusive of lunch, refreshments and course materials. Accommodation is not included.

Local Participant
RM2067

International Participant
EURO950

Method of Payment

Please kindly complete and return the reply form 3 weeks before the commencement date together with :

Local Participant

Cheque / Bank Draft which are made payable to **PHYTO BIZNET SDN. BHD.**

International Participant

Direct Transfer/Bank Draft :
IBD Bank details :
CIMB Bank Berhad,
Universiti Teknologi Malaysia
81310 UTM Johor Bahru, Johor, Malaysia

Please instruct your bank to remit us the full amount, net of bank charges

Account No : **0118 - 0004178 - 05 - 7**
Swift Code **CIBBMYKL**

Cancellation & Substitutions

A full refund will be promptly made for all written cancellations 2 weeks before the course. 50% refund will be made for written cancellations received 7 days before the course. A substitute may be made at any time.

A) The organiser has the right to make any amendments that they deem to be in the best interest of the course and to cancel the course if insufficient registrations are received a week before course commencements date.

B) CERTIFICATE OF ATTENDANCE will be awarded at the end of the course.