



Petrofac 

Training Services

Singapore Training Course Directory



Petrofac Training Services Training Directory Foreword from Regional Director - Asia Pacific, Mr Phil Costelloe

Petrofac Training Services is a leading provider of competence-led training and consultancy solutions to the international oil & gas industry and is a training and competency arm of the Petrofac Group.

As part of the commitment to expand Petrofac Training Services' service offerings and provide multifaceted competency development solutions for the region, Petrofac Training Services has committed to expanding and delivering the training and assessment for competencies encompassing Operations & Maintenance, Safety and Emergency Response & Crisis Management.

Since June 2008, Petrofac Training Institute in Singapore has been operating and managing the Chemical Process Technology Centre on Jurong Island. The Chemical Process Technology Centre is a one of a kind training centre with a 'live' hydrocarbon plant used solely for training and assessment, in addition to its offerings of simulator laboratories and classrooms.

Petrofac Training Institute has also been appointed by the Singapore Workforce Development Agency (WDA) in 2008 as a Continuing Education and Training (CET) Centre to provide the Singapore Workforce Skills Qualifications (WSQ) programme, focusing on competency-based training and assessment to upgrade the skills sets of Operations and Maintenance personnel for Singapore's growing chemical, pharmaceutical and associated industries.

Our team of experienced trainers and assessors bring together a wealth of knowledge and experience from the Chemical, Process and Pharmaceutical industries.

In addition to the training and delivery at Chemical Process Technology Centre, we can also deliver training at our customer's premises and plan the necessary training schedule to complement our customer's operations schedule.

These calendar courses have been specifically developed to reflect and incorporate the latest trend and best industry practices. We are committed to providing the highest level of services to our customers across our entire businesses, supporting the drive for a safer and more competent workforce.

Yours sincerely,

Phil Costelloe
Regional Director - Asia Pacific



Course Information, Booking and Quotation

For more information and booking of our courses, please contact us at:

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WSQ Process Technology (Chemical Production) Training Course Directory

Petrofac Training Services is a leading provider of competence-led training and consultancy solutions to the international oil & gas industry and is a training and competency arm of the Petrofac Group.

Petrofac Training Institute in Singapore has been appointed by the Singapore Workforce Development Agency (WDA) in 2008 as a Continuing Education and Training (CET) Centre to provide Singapore Workforce Skills Qualifications (WSQ) programme, focusing on competency-based training and assessment to upgrade the skills sets of Operations and Maintenance personnel for Singapore's growing chemical, pharmaceutical and associated industries.

As part of the commitment to expand Petrofac Training Institute's service offerings and provide multifaceted competency development solutions for the local industries, Petrofac Training Institute has committed to expanding and delivering the WSQ in Process Technology (Chemical Production) programme from Certificate to Diploma levels.

The WSQ in Process Technology (Chemical Production) programme and competencies has been developed in conjunction and consultation with the Process and Chemical industries' leaders and vanguards. Developed with relevant up-to-date technical consultation with the industries' best practices in mind, the WSQ programme aim to develop competency and minimise risks.

Our team of experienced trainers and assessors bring together wealth of knowledge and experience from the Chemical, Process and Pharmaceutical industries.

Combined with our 'live' hydrocarbon processing plant training unit and fully equipped training facility, Petrofac Training Institute's aim is to ensure that efficiency improvement, competence and the practice of good safety is evident right across every workforce, and that it can provide fit-for-purpose training & consultancy solutions to address specific competency gaps or risks that may exist.

In addition to the training and delivery at CPTC, we can also deliver training at our customer's premises and plan the necessary training schedule to complement our customer's operation schedule.

These calendar courses have been specifically developed to reflect and incorporate the latest trend and best industry practices. We are committed to providing the highest level of services to our customers across our entire business.

WSQ Process Technology Programme Levels

- Certificate
- Higher Certificate
- Advanced Certificate
- Diploma

PROCESS PLANT OPERATIONS COURSES

WSQ CERTIFICATE IN PROCESS TECHNOLOGY (CHEMICAL PRODUCTION) PROGRAMME

Ref: CT2101/CT2102

Programme Overview:

This programme provides the participant the base level foundation and competence in the operation of a hydrocarbon process plant, with emphasis on safety, utilities operations and communication procedures. The competencies covered under this programme include apply workplace safety, permit to work system, use of process plant utilities and various fundamentals of chemical process technology. The participant will be equipped with on shift experience in operating a live plant under a safe and controlled environment. This course is based on the Singapore Workforce Skills Qualifications (WSQ) which is validated and endorsed by the industry.

Programme Objectives and Content:

To provide participants with the confidence, knowledge and skills to safely and competently operate basic process plant equipment units, control devices and facilities of a hydrocarbon process plant. Participants will undertake training and assessment for the following competencies (4 Core & 4 Elective):

Core Competencies:

- Apply teamwork in the workplace
- Apply workplace safety and health practices
- Initiate, relay and respond to information in plant/worksite
- Monitor and operate process parameters

Elective Competencies:

- Use process drawings, diagrams, schedules and manuals
- Perform basic maintenance works
- Work in accordance with an issued permit
- Respond to emergency situation
- Operate pumps and associated equipment
- Operate flare release system
- Use utilities and services
- Perform process line-up
- Operate heat exchangers

Who Will Benefit:

- New entrants to the chemical and process Industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

Approximately 6 weeks full time or 10 weeks part time.

Certification:

The WSQ Certificate in Process Technology (Chemical Production) will be awarded upon the successful completion of 8 Statements of Attainments, comprising of 4 Core competencies and 4 Elective competencies.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Nett course fees after Singapore Workforce Development Agency's subsidy: S\$4,320.00 (For Singaporeans/Singapore PRs)
- Nett full course fees: S\$14,400.00 (For foreigners)
- GST is calculated at 7% prevailing rate and subject to change.

WSQ APPLY TEAMWORK IN THE WORKPLACE

Course Code: MF-PRO-101C-1

Course Overview:

Effective communication and team participation are essential in today's increasingly complex workplace like the chemical industry. This competency unit develops the participant in the fundamentals of team building and team culture, effective communication with team members and also improving team performance. This course will help workers in the industry understand an organisation's structure, vision and achieving corporate and group objectives as a team.

Course Content:

- Participate in team activities
- Communicate with team members
- Follow-through team activities

Who Will Benefit:

- New entrants to the chemical and process industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

2 Days

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ APPLY WORKPLACE SAFETY AND HEALTH PRACTICES

Course Code: MF-PRO-102C-1

Course Overview:

This course will help participant gain knowledge on workplace safety and health (WSH) regulations which are very important in the chemical industry. Participant will obtain the fundamental knowledge in identifying hazards and assessing risks while complying with WSH procedures at their workplace. On completion of this module, participant will gain the knowledge and application skills to apply workplace safety and health procedures and practices to ensure safety of oneself and others at work.

Course Content:

- Identify responsibilities under WSH and Environmental Acts
- Identify hazards and assess risks
- Comply with WSH at workplace
- Maintain risk control measures

Who Will Benefit:

- New entrants to the chemical and process Industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

1 Day

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ INITIATE, REPLAY AND RESPOND TO INFORMATION IN PLANT/WORKSITE

Course Code: PI-CP-101C-1

Course Overview:

This course will assist participant develop the skills and knowledge needed to relay and respond to information in the process plant. Participant will obtain the fundamental knowledge in identifying relevant information, alerts and alarms before relaying and responding information appropriately in the workplace. On completion of this module, participant will learn to apply different methods of communicating messages on the plant / worksite, and how to interpret and act upon these messages.

Course Content:

- Initiate messages in plant/work site
- Receive messages in plant/work site
- Interpret messages in plant/work site
- Act upon messages in plant/work site

Who Will Benefit:

- New entrants to the chemical and process Industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

1 Day

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ MONITOR AND OPERATE PROCESS PARAMETERS

Course Code: PI-CP-103C-1

Course Overview

This course provides the participant with the fundamental knowledge and practical understanding in monitoring and operations of process equipment. It covers monitoring and recording critical process variables and responding correctly to adjust process parameters to achieve specified output and quality requirements according to the standard operating procedures. On completion of this unit, participant will be able to apply, demonstrate and practise skills learnt to monitor and operate the process operations.

Course Content:

- Monitor critical process variables.
- Operate critical process variables.
- Adjust process parameters to achieve specified output and quality requirements.
- Monitor process systems according to standard operating procedures.
- Operate process systems according to standard operating procedures.
- Participate in reviewing process operating procedures

Who Will Benefit:

- New entrants to the chemical and process Industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

2.5 Days

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ USE PROCESS DRAWINGS, DIAGRAMS, SCHEDULES AND MANUALS

Course Code: PI-EM-101C-1

Course Overview:

This course provides the participant with the fundamental knowledge and practical understanding on interpreting details on Piping and Instrument Diagrams, Process and Engineering Flow Scheme and process schedules and specifications. Participants will gather and understand the relevant information in standard operating manuals applicable to area of work.

Course Content:

- Interpret details on Piping and Instrument Diagrams (P&IDs).
- Interpret details on a Process and Engineering Flow Scheme (PEFS).
- Interpret information from process schedules and specifications.
- Use relevant information in standard operating manuals applicable to area of work.

Who Will Benefit:

- New entrants to the chemical and process industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

3.5 Days

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ PERFORM BASIC MAINTENANCE WORKS

Course Code: PI-PRO-104E-1

Course Overview:

This course provides the participant with the fundamental knowledge and practical skills on preparation and carrying out of basic maintenance work on a process plant, after which the participant will reinstate the work area back to a safe and clean condition.

Course Content:

- Prepare for maintenance works
- Perform parts removal and replacement
- Reinstatement work site

Who Will Benefit:

- New entrants to the chemical and process industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

3 Days

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ WORK IN ACCORDANCE WITH AN ISSUED PERMIT

Course Code: PI-CP-102E-1

Course Overview:

This competency unit provides the participants with the fundamental and practical understanding on the various safety processes and documentations. This competency unit covers permit to work system, task risk assessment and minimising work hazards. On completion of this unit, learners will have the knowledge and skills to identify, initiate and implement the procedures and processes necessary to comply with Permit to Work system guidelines for ensuring the safety of themselves and others

Course Content:

- Interpret relevant parts of permit to work.
- As certain risks and hazards within the scope of work for the permit to be raised.
- Minimise the risks and hazards associated with work to be done.
- Perform work within the requirements of issued permit/s.
- Close and/or withdraw issued permit

Who Will Benefit:

- New entrants to the chemical and process Industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

2 Days

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ RESPOND TO EMERGENCY SITUATION

Course Code: PI-ES-102C-1

Course Overview:

This competency unit provides the participants with the fundamental and practical understanding on the actions to be taken during an emergency situation, such as raising alarms, reporting of situations and participating in emergency procedures during emergencies. This unit of competency relates to the appropriate response to emergency situations for any new workers at the workplace. On completion, the learner knows the signals when an emergency situation takes place as well as the proper procedures to follow in order to save oneself from possible injury.

Course Content:

- Raise an alarm when an emergency is happening.
- Participate in emergency procedures during an emergency.
- Assist with reporting of emergencies and critical situations.

Who Will Benefit:

- New entrants to the chemical and process Industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

2 Days

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPERATE PUMPS AND ASSOCIATED EQUIPMENT

Course Code: PI-PRO-103E-1

Course Overview:

This competency unit provides the participants with the fundamental and practical development in the operations of pumps and its associated equipments according to standard operating procedures safely to minimise hazards. It also instructs participants on how to respond to abnormal conditions of pump operations. This competency encompasses the safe and effective operation of pumps and associated pumping equipment currently used in production and processing plants.

Course Content:

- Operate pumps according to standard operating procedures.
- Operate fluid control devices.
- Respond to abnormal conditions.
- Minimise hazards associated with pumps and associated pumping equipment

Who Will Benefit:

- New entrants to the chemical and process Industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

3.5 Days

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPERATE FLARE RELEASE SYSTEM

Course Code: PI-CP-115E-1

Course Overview:

This competency unit provides the participants with the fundamental and practical development on the preparation, commissioning, operations and shutdown of flare systems according to standard operating procedures safely to minimise hazards and impacts on the environment. This unit of competency covers the skills and knowledge needed to effectively operate and monitor a flare release system in a process plant.

Course Content:

- Minimise hazards associated with flares and associated equipment.
- Prepare and commission flare system for use.
- Operate flare systems according to standard operating procedures with minimal impact on environment.
- Participate in normal shutdown of flare system

Who Will Benefit:

- New entrants to the chemical and process Industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

2 Days

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ USE UTILITIES AND SERVICES

Course Code: PI-CP-129E-1

Course Overview:

This competency unit provides the participants with the fundamental and practical development on the operations of steam, compressed air, nitrogen, water and auxiliary systems on a hydrocarbon process plant. This competency unit covers the use of a range of utilities and services used on a day-to-day basis in a process plant.

Course Content:

- Operate steam systems
- Operate compressed air systems
- Operate nitrogen systems
- Operate water systems (cooling, potable, fire, sea, boiler)
- Operate auxiliary services

Who Will Benefit:

- New entrants to the chemical and process industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

4.5 Days

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ PERFORM PROCESS LINE-UP

Course Code: PI-CP-124E-1

Course Overview:

This competency unit provides the participants with the fundamental and practical understanding on how to prepare materials, equipment and utilities to start up a production process. This competency unit covers the skills and knowledge for field personnel who are required to perform process line up.

Course Content:

- Prepare to carry out a production process.
- Prepare equipment and utilities for a production process.
- Prepare materials for a production process.
- Start up a production process

Who Will Benefit:

- New entrants to the chemical and process Industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

2.5 Days

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPERATE HEAT EXCHANGERS

Course Code: PI-PHM-218E-0

Course Overview:

This competency unit provides the participants with the fundamental and practical development on the commissioning, operations, shutdown and de-commissioning of heat exchangers according to standard operating procedures safely to minimise hazards. This unit of competency covers the skills and knowledge needed to effectively operate heat exchangers and associated equipment used for cooling, heating and refrigeration in production and processing plants.

Course Content:

- Commission heat exchangers for service.
- Operate heat exchangers according to standard operating procedures.
- Shut down and de-commission heat exchangers.
- Minimise hazards relating to heat exchangers and associated equipment

Who Will Benefit:

- New entrants to the chemical and process Industry
- Process technicians or operators looking for skills enhancement
- Personnel interested in joining the chemical and process industry

Duration:

2.5 Days

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4
- Successful completion of Physical Aptitude and Psychometric tests conducted at CPTC

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ HIGHER CERTIFICATE IN PROCESS TECHNOLOGY (CHEMICAL PRODUCTION) PROGRAMME

Ref: CT2201/CT2202

Programme Overview:

This programme provides the participant with a greater level of competence in the safe operations and specific technical aspects of processes in hydrocarbon plants. The competencies covered under this programme include apply safety in process plant, respond to fire emergency in process plant, operate distributed control system and perform chemical tests. The participant will be equipped with on shift experience in operating a live plant under a safe and controlled environment. This course is based on the Singapore Workforce Skills Qualifications (WSQ) which is validated and endorsed by the industry.

Programme Objectives and Content:

To provide participants with the confidence, knowledge and skills to safely and competently carry out specific technical processes, equipments, control devices and facilities of a hydrocarbon process plant. Participants will undertake training and assessment for the following competencies (5 Core & 5 Elective):

Core Competencies:

- Follow good manufacturing practices
- Apply continuous process improvement techniques
- Apply process quality control techniques
- Apply safety in process plant
- Perform Emergency Shutdown of Process Plant

Elective Competencies:

- Respond to fire emergency in process plant
- Operate distributed control system
- Operate furnace
- Perform chemical tests
- Operate process control instrumentation
- Operate separation equipment
- Operate compressors and associated equipment
- Calibrate and test measuring instruments
- Generate electrical power
- Operate re-boiler
- Produce product using liquid extraction
- Handle Process Non-Conformance
- Interpret Technical and Engineering Drawings

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

Approximately 8 weeks full time or 12 weeks part time.

Certification:

The WSQ Higher Certificate in Process Technology (Chemical Production) will be awarded upon the successful completion of 10 Statements of Attainments, comprising of 5 Core competencies and 5 Elective competencies.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Nett course fees after Singapore Workforce Development Agency's subsidy: S\$5,400.00 (For Singaporeans/Singapore PRs)
- Nett full course fees: S\$18,000.00 (For foreigners)
- GST is calculated at 7% prevailing rate and subject to change.

WSQ FOLLOW GOOD MANUFACTURING PRACTICES

Course Code: MF-COM-101E-1

Course Overview:

Good manufacturing practices are critical in ensuring the processes in a manufacturing or production plant are run smoothly and safely with minimal disruptions. This competency unit develops the participant with the basic knowledge and skills to report, record abnormalities, follow standard operating procedures and contamination control procedures, when carrying out their tasks in a manufacturing or process environment.

Course Content:

- Follow standard operating procedure requirements.
- Follow contamination control procedures.
- Report and record abnormalities.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

1 Day.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ APPLY CONTINUOUS PROCESS IMPROVEMENT TECHNIQUES

Course Code: MF-COM-102E-1

Course Overview:

This competency unit develops the participant with the skills and knowledge in applying continuous process improvement techniques and be able to put it into practice at their workplaces. This is with the objective of identifying and improving process practices to improve the overall workflow and/or production onsite.

Course Content:

- Identify improvement opportunities.
- Carry out continuous improvement activities.
- Follow-through the improvement activities.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

2 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ APPLY PROCESS QUALITY CONTROL TECHNIQUES

Course Code: PI-PRO-201C-1

Course Overview:

This competency unit develops the participant in the areas of basic techniques for controlling the quality of materials and services in a process plant environment. Participants are required to prepare to examine and assess quality; monitor and control quality; report on status of quality and perform quality housekeeping.

Course Content:

- Prepare to examine and assess quality.
- Monitor and control quality.
- Report on status of quality.
- Perform quality housekeeping.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

4 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ APPLY SAFETY IN PROCESS PLANT

Course Code: PI-PH-201C-1

Course Overview:

Safety and hazards minimization is a critical factor when working in a process plant. This course will provide the knowledge and skills for the participant to accurately identify process occupational health safety (OHS) hazards and assess risk in a process environment, while following instructions and procedures in the plant with minimal supervision.

Course Content:

- Identify occupational health and safety (OHS) hazards in a process plant.
- Assess the risks in a process plant.
- Contribute to OHS management issues.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

2.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ PERFORM EMERGENCY SHUTDOWN OF PROCESS PLANT

Course Code: PI-PRO-207C-1

Course Overview:

Staff on a process plant must be prepared for emergency situations which may arise when least expected and take the necessary actions to conduct plant shutdown safely to prevent injuries, loss of life and/or damage to the environment. This course develops the participant to conduct shutdown of a process plant during an emergency situation which may be the result of accident, fire, explosion, spillage, gas release, utilities failure, environment incident or security threat.

Course Content:

- Prepare for emergency shutdown of process plant.
- Activate emergency shutdown of process plant.
- Record emergency shutdown of process plant.
- Participate in post-emergency shutdown evaluation.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

3 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ RESPOND TO FIRE EMERGENCY IN PROCESS PLANT

Course Code: PI-PH-204E-1

Course Overview:

Fires on a process plant are an inherent risk which may lead to injuries and even loss of life. This course develops the participant to function as a member of an emergency response team in order to meet and respond to fire emergencies in process plant. The participant will be prepared for fire emergencies on the plant with the knowledge and skill of deploying emergency fire equipment and carrying out search and rescue missions.

Course Content:

- Prepare for fire emergencies.
- Deploy fire emergency equipment.
- Participate in search and rescue operations.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

3 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPERATE DISTRIBUTED CONTROL SYSTEM

Course Code: PI-WAT-201C-1

Course Overview:

This course will assist the participant to develop the skills and knowledge needed for the usage of a Distributed Control System, such as calling up process displays, monitoring data, responding to alarms and performing control operations using the DCS for control and processes of a hydrocarbon process plant.

Course Content:

- Call up process displays on DCS.
- Perform control operations using DCS.
- Monitor historical data on DCS.
- Respond to process alarms on DCS.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

3 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPERATE COMPRESSORS AND ASSOCIATED EQUIPMENT

Course Code: PI-PRO-213E-1

Course Overview:

This competency unit provides the participants with the fundamental and practical development in the operations of compressors and its associated equipments according to standard operating procedures safely to minimise hazards. It also instructs participants on how to respond to abnormal conditions of compressor performance. This competency encompasses the safe and effective operation of compressors and associated equipment currently used in production and processing plants.

Course Content:

- Check various types and functions of compressors.
- Start up compressors according to standard operating procedures.
- Monitor compressors according to standard operating procedures.
- Shut down compressors according to standard operating procedures.
- Respond to abnormal conditions in compressor performance.
- Minimise hazards associated with compressors and associated equipment.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ CALIBRATE AND TEST MEASURING INSTRUMENTS

Course Code: PI-PRO-219E-1

Course Overview:

This competency unit provides the participants with the fundamental and practical development in the calibration, adjustment and testing of measuring instruments. It encompasses following calibration and adjustment procedures while working safely under standard operating procedures.

Course Content:

- Calibrate measuring instruments.
- Adjust measuring instruments.
- Test measuring instruments.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

2 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ PERFORM CHEMICAL TESTS

Course Code: PI-PRO-224E-1

Course Overview:

Chemical testing is vital in ensuring product consistency and that it meets the exact specifications required. This competency unit provides the participants with the fundamental and practical development in the ability to interpret chemical test requirements, conduct testing preparations, pre-use and calibration checks on equipment, and conduct sampling via chemical tests and procedures.

Course Content:

- Prepare to take samples of chemicals.
- Take samples of chemicals.
- Calibrate measuring equipment for testing chemicals.
- Perform routine tests for chemicals.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

2 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ GENERATE ELECTRICAL POWER

Course Code: PI-CP-202E-1

Course Overview:

This competency unit provides the participants with the fundamental and practical development in the operations of electrical power generation and its associated equipments according to standard operating procedures safely to minimise hazards. It also instructs participants on how to respond to abnormal conditions of electrical power generation equipment. This competency encompasses the safe and effective operation of electrical power generation equipment currently used in production and processing plants.

Course Content:

- Check various types of electrical power generation plant and equipment .
- Start up electrical power generation equipment, according to standard operating procedures.
- Monitor electrical power generation equipment according to standard operating procedures.
- Shut down electrical power generation equipment according to standard operating procedures.
- Respond to abnormal conditions in electrical power generation equipment.
- Minimize hazards associated with electrical power generation.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPERATE FURNACE

Course Code: PI-CP-208E-1

Course Overview:

This competency unit provides the participants with the fundamental and practical development in the operations of the furnace according to standard operating procedures safely to minimise hazards. It also instructs participants on how to perform fuel switching operation, oil burner gun cleaning and shutdown safely.

Course Content:

- Inspect furnace components.
- Perform furnace start up according to standard operating procedures.
- Control furnace firing conditions according to standard operating procedures.
- Perform fuel switching operation according to standard operating procedures.
- Perform oil burner gun cleaning according to standard operating procedures.
- Perform furnace shutdown according to standard operating procedures.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPERATE PROCESS CONTROL INSTRUMENTATION

Course Code: PI-CP-210E-1

Course Overview:

This course provides the participant with the fundamental knowledge and practical understanding on interpreting details on the operation of process control instrumentation in the field to check and verify gauges, valves, controllers and report abnormalities in process variables.

Course Content:

- Monitor process variables.
- Monitor field devices for process measurement.
- Operate process control from local control panel.
- Respond to process abnormalities using field instruments.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

3 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPERATE RE-BOILER

Course Code: PI-CP-212E-1

Course Overview:

This competency unit provides the participants with the fundamental and practical development in the operations of the re-boiler (kettle-type, thermosyphon, forced circulation) according to standard operating procedures safely to minimise hazards. It encompasses instructing the participant on how to perform commissioning, operation shutdown and de-commissioning of re-boilers, while maintaining a safe and clean work area.

Course Content:

- Check various types of re-boilers.
- Prepare and commission re-boilers for production.
- Operate re-boilers according to standard operating procedures.
- Shut down and de-commission re-boilers according to standard operating procedures.
- Clear, clean and reinstate the work area.
- Minimise hazards associated with re-boilers and associated equipment.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPERATE SEPARATION EQUIPMENT

Course Code: PI-CP-213E-1

Course Overview:

This competency unit provides the participants with the fundamental and practical development in the operations of a stand alone dual phase separation equipment according to standard operating procedures safely to minimise hazards. It also instructs participants on how to respond to abnormal conditions of separation equipment. This competency encompasses the safe and effective operation of separation equipment currently used in hydrocarbon processing plants.

Course Content:

- Check various types and functions of separation equipment.
- Start up separation equipment according to standard operating procedures.
- Operate separation equipment according to standard operating procedures.
- Shut down separation equipment according to standard operating procedures.
- Respond to abnormal conditions in separation equipment performance.
- Minimise hazards associated with separation equipment.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ PRODUCE PRODUCT USING LIQUID EXTRACTION

Course Code: PI-CP-216E-1

Course Overview:

This competency unit provides the participants with the fundamental and practical development in the processes of liquid extraction according to standard operating procedures safely. It encompasses monitoring and controlling the liquid extraction process, while rectifying operational problems in the process. It also instructs participants on scheduling maintenance for liquid extraction equipment.

Course Content:

- Monitor and control liquid extraction process in accordance with standard operating procedures.
- Rectify operational problems in liquid extraction in accordance with standard operating procedures.
- Schedule liquid extraction equipment availability for maintenance procedures.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ HANDLE PROCESS NON-CONFORMANCE

Course Code: PI-PRO-208E-1

Course Overview:

This competency develops the participant to review the deviations of process variables from steady state, the steps needed to rectify the process and to bring the product production back to specification. After which the participant will review the reasons for process non-conformance and actions taken.

Course Content:

- Evaluate deviations of process variables from the steady state condition of a process plant.
- Rectify process deviations in process plant.
- Rectify out-of-specification product.
- Review process non-conformance.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

3 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ INTERPRET TECHNICAL AND ENGINEERING DRAWINGS

Course Code: PI-ES-230C-1

Course Overview:

This course provides the participant with the fundamental knowledge and practical understanding on interpreting details of engineering drawings, workplace floor plans, electrical and instrumentation diagrams. Participants will gather and understand the relevant information in standard operating manuals applicable to area of work.

Course Content:

- Extract information from engineering drawings.
- Extract information from workplace floor plans.
- Extract information from electrical diagrams.
- Extract information from instrumentation diagrams.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement.
- Personnel who wish to develop a better understanding and competency in the specific technical processes and equipments of the chemical and process industry.

Duration:

2.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

- English proficiency level equivalent to the Employability Skills System (ESS) level 4.
- Numerical proficiency level equivalent to Employability Skills System (ESS) level 4.
- Successful completion and awarding of the WSQ Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ ADVANCED CERTIFICATE IN PROCESS TECHNOLOGY (CHEMICAL PRODUCTION) PROGRAMME

Ref: CT3301/CT3302

Programme Overview:

This programme provides the participant with a supervisory level of competence in the coordination of safe operations and processes in hydrocarbon plants. The competencies covered under this programme include supervising team and WSH practices at work, coordinating plant de-commissioning and shutdown, leading ER teams and scheduling plant for maintenance. The participant will be equipped with supervisory and on shift experience in operating a live plant under all conditions, including emergency incidents management. This course is based on the Singapore Workforce Skills Qualifications (WSQ) which is validated and endorsed by the industry.

Programme Objectives and Content:

To provide participants with the confidence, knowledge and skills to safely and competently carry out specific technical processes, equipments, control devices and facilities of a hydrocarbon process plant. Participants will undertake training and assessment for the following competencies (4 Core & 6 Elective):

Core Competencies:

- Implement Process Quality Control
- Optimise Operating System
- Supervise Teams at Work
- Supervise WSH Practices

Elective Competencies:

- Analyse Information to Solve Problems
- Co-ordinate Plant Shutdown and Restart
- De-Commission Plant
- Implement Operational, Process and Resource Planning
- Issue, Monitor and Control Work Permit
- Lead Emergency Team
- Manage Emergency Incidents
- Operate Crude Distillation Unit
- Operate Platformer
- Operate Sulphur Recovery Unit
- Write Process Technical Documents and Reports
- Schedule Process Plant for Maintenance

Who Will Benefit:

Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.

Duration:

Approximately 9 weeks full time (Duration may vary from customization of the number and types of electives required).

Certification:

The WSQ Advanced Certificate in Process Technology (Chemical Production) will be awarded upon the successful completion of 10 Statements of Attainments, comprising of 4 Core competencies and 6 Elective competencies.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Nett course fees after Singapore Workforce Development Agency's subsidy: S\$5,400.00 (For Singaporeans/Singapore PRs)
- Nett full course fees: S\$18,000.00 (For foreigners)
- GST is calculated at 7% prevailing rate and subject to change.

WSQ IMPLEMENT PROCESS QUALITY CONTROL

Course Code: PI-PRO-301C-1

Course Overview:

Process quality controls are critical in ensuring the processes, associated equipments and/or products remain on specification with minimal disruptions. This competency unit develops the participant with the knowledge and skills to monitor the implementation of the production or maintenance quality control procedures at the enterprise level in a process environment.

Course Content:

- Provide guidance and support for the implementation of quality systems.
- Apply quality control procedures.
- Audit quality control procedures.
- Coach and mentor team members/subordinates in process quality control.

Who Will Benefit:

Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.

Duration:

2.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPTIMISE OPERATING SYSTEM

Course Code: PI-PRO-309C-1

Course Overview:

This competency unit develops the participant with the knowledge and skills to take a lead role in the optimisation of a complete production area. It includes ensuring that production systems comply with OHS and environmental requirements. Plant and equipment utilisation is planned, carried out and problems solved to meet operational needs.

Course Content:

- Process production, parameters and specifications.
- Control start up of production unit and associated equipment according to standard operating procedures.
- Control and monitor production unit and associated equipment according to standard operating procedures.
- Control shut down of production unit and associated equipment according to standard operating procedures.
- Rectify abnormal conditions in production unit and associated equipment.
- Minimise hazards associated with operating production unit and associated equipment.

Who Will Benefit:

Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.

Duration:

4.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ SUPERVISE TEAMS AT WORK

Course Code: MF-COM-303C-1

Course Overview:

Senior and more experience technicians or operators must take the lead in the management and delegation of their subordinates effectively. This competency unit develops the participant with the skills and knowledge in supervising teams at work and be able to put it into practice at their workplaces.

Course Content:

- Form work teams.
- Lead workplace teams activities.
- Maintain team performance.

Who Will Benefit:

Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles

Duration:

3 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ SUPERVISE WSH PRACTICES

Course Code: MF-COM-301E-1

Course Overview:

Safety must always be on the forefront of any activity to be conducted onsite, hence the necessary safety practices and measures must be implemented to reduce risk and ensure a safe workplace as much as possible. This competency unit develops the participant with the knowledge and skills in planning WSH activities, implement safe work practices and maintain workplace risk control measures at their workplaces.

Course Content:

- Plan workplace safety and health activities.
- Implement safe work practices.
- Maintain workplace risk control measures.

Who Will Benefit:

Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.

Duration:

3 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ ANALYSE INFORMATION TO SOLVE PROBLEMS

Course Code: PI-CP-312E-1

Course Overview:

This competency unit covers the knowledge and application skills needed by a senior process technician, production supervisor or process engineer to investigate and solve problems in a process plant. This person is required to collect and analyse relevant data and information, as well as recommend and implement solutions or corrective actions.

Course Content:

- Define problems relating to process plant.
- Analyse relevant data and information.
- Recommend solutions or corrective actions to solve problems.
- Implement solutions and corrective actions to solve problems.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.
- Senior process technicians, production supervisors or process engineers.

Duration:

4.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ CO-ORDINATE PLANT SHUTDOWN AND RESTART

Course Code: PI-CP-303E-1

Course Overview:

This competency unit develops the participant with the knowledge and skills for the coordination of the shutdown and restarting of the production process in a safe and efficient manner due to a planned or an unplanned shutdown or emergency situation.

Course Content:

- Co-ordinate restarting of process plant.
- Co-ordinate planned shutdown in process plant.
- Respond to unplanned shutdowns in process plant.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.
- Lead technicians.

Duration:

4.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ DE-COMMISSION PLANT

Course Code: PI-CP-301E-0

Course Overview:

This competency unit develops the participant with the knowledge and skills to take a leading role in the de-commissioning of plant and equipment. Normally be conducted as part as a project looking at new, modified or plant returning to service after major maintenance.

Course Content:

- De-commissioning planning.
- Shut down and de-commission according to standard operating procedures.
- Minimise hazards.

Who Will Benefit:

Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles

Duration:

4 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ IMPLEMENT OPERATIONAL, PROCESS AND RESOURCE PLANNING

Course Code: PI-PRO-305E-1

Course Overview:

This competency unit develops the participant with the knowledge and skills to implement various operational, process and resource plans relating to operation of a plant.

Course Content:

- Analyse operational and process requirements.
- Assist in the procurement and allocation of resources.
- Monitor outcomes of implementing operational, process and resource planning.
- Report results achieved against targets.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.
- Lead technicians.

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ ISSUE, MONITOR AND CONTROL WORK PERMIT

Course Code: PI-PRO-307E-1

Course Overview:

A permit-to-work system is a formal written system used to control certain types of work that may be potentially hazardous. They allow work to start only after safe procedures have been defined and they provide a clear record that all foreseeable hazards have been considered. This unit of competency addresses the need for personnel who issue work permits to understand the importance of safe conditions in the permit system, know the limitations of each permit and make decisions regarding the need for and correct use of each permit.

Course Content:

- Prescribe permit to work and permit requirements.
- Minimise the risks and hazards associated with work activities.
- Issue a permit to work.
- Control progress of work being carried out under a permit to work.
- Close and/or withdraw an issued permit.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.
- Plant managers, supervisors, permit issuers.

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ LEAD EMERGENCY TEAM

Course Code: PI-CP-304E-1

Course Overview:

This competency unit develops the participant with the knowledge and skills to lead and coordinate an emergency team, including deployment of resources at the scene of an emergency. Typically they would be leading a fire emergency team.

Course Content:

- Assess emergency situation and coordinate emergency teams.
- Deploy and control emergency response appliances, equipment and materials.
- Lead search and rescue operations.
- Record and report emergency incident.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.
- Emergency team responders / leaders.

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ MANAGE EMERGENCY INCIDENTS

Course Code: PI-CP-305E-1

Course Overview:

This competency unit develops the participant with the knowledge and skills to undertake the management, coordination and response to emergency situations within the facility.

Course Content:

- Interpret emergency response plans, policies and procedures.
- Assess an emergency situation.
- Activate incident command and control procedures.
- Manage emergency activities and response teams.
- Manage stand down and incident de-brief feedback reporting.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.
- Plant managers, supervisors and emergency team leaders.

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPERATE CRUDE DISTILLATION UNIT

Course Code: PI-CP-307E-1

Course Overview:

This competency unit develops the participant with the knowledge and skills to take a leading role in the optimisation of a crude distillation unit. It includes verifying that production systems comply with WSH and environmental requirements; plant and equipment utilisation is planned and carried out; and problems solved to meet operational needs.

Course Content:

- Inspect crude distillation unit and associated equipment.
- Control start up of crude distillation unit and associated equipment according to standard operating procedures.
- Control and monitor crude distillation unit and associated equipment according to standard operating procedures.
- Control shut down of crude distillation unit and associated equipment according to standard operating procedures.
- Rectify abnormal operating conditions in crude distillation unit and associated equipment.
- Minimise hazards related to operation of crude distillation unit and associated equipment.

Who Will Benefit:

Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPERATE PLATFORMER

Course Code: PI-CP-308E-1

Course Overview:

This competency unit develops the participant with the knowledge and skills to take a leading role in the optimisation of a platformer unit. It includes verifying that production systems comply with WSH and environmental requirements; and plant and equipment utilisation is planned, carried out and problems solved to meet operational needs.

Course Content:

- Inspect platformer unit and associated equipment.
- Control start up of platformer unit and associated equipment according to standard operating procedures.
- Control and monitor platformer unit and associated equipment according to standard operating procedures.
- Control shut down of platformer unit and associated equipment according to standard operating procedures.
- Rectify abnormal conditions in platformer unit and associated equipment.
- Minimise hazards related to operation of platformer unit and associated equipment.

Who Will Benefit:

Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ OPERATE SULPHUR RECOVERY UNIT

Course Code: PI-CP-306E-1

Course Overview:

This competency unit develops the participant with the knowledge and skills to take a lead role in the operation of sulphur recovery units. It includes ensuring that production systems comply with OHS and environmental requirements. Plant and equipment utilisation is planned, carried out and problems solved to meet operational needs.

Course Content:

- Inspect sulphur recovery unit and associated equipment.
- Control start up of sulphur recovery unit and associated equipment according to standard operating procedures.
- Control and monitor sulphur recovery unit and associated equipment according to standard operating procedures.
- Control shut down of sulphur recovery unit and associated equipment according to standard operating procedures.
- Rectify abnormal conditions in sulphur recovery unit and associated equipment.
- Minimise hazards associated with operating sulphur recovery unit and associated equipment.

Who Will Benefit:

Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ WRITE PROCESS TECHNICAL DOCUMENTS AND REPORTS

Course Code: PI-PRO-325C-1

Course Overview:

This competency unit develops the participant with the knowledge and skills in researching, analysing and reporting production information relating to process plants. These skills include the ability to identify appropriate and reliable sources of information; as well as gather, interpret and report technical information.

Course Content:

- Prepare to draft process technical documents and reports.
- Draft process technical documents and reports according to organizational format and style.
- Distribute process technical documents and reports.

Who Will Benefit:

Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.

Duration:

2 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

WSQ SCHEDULE PROCESS PLANT FOR MAINTENANCES

Course Code: PI-CP-313E-1

Course Overview:

This competency unit develops the participant with the knowledge and skills to schedule process plant equipment for maintenance, involving production shutdown and preparation for maintenance activities.

Course Content:

- Plan process plant equipment shut down for maintenance.
- Prepare process plant equipment for maintenance.
- Coordinate process plant equipment maintenance activities.

Who Will Benefit:

- Process technicians or operators looking for skills enhancement and transition into supervisory responsibilities / roles.
- Plant managers, production supervisors and lead technicians.

Duration:

3.5 Days.

Certification:

A WSQ Statement of Attainment will be issued to each participant on successful completion of the course.

Pre-requisites:

Successful completion and awarding of the WSQ Certificate and Higher Certificate in Process Technology (Chemical Production).

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

CHEMICAL PROCESS FAMILIARISATION COURSE

Ref: CT8007

Programme Overview:

CPTC's Chemical Process Familiarisation Course trains and develops the participants in an industry scale hydrocarbon training plant. The participants will experience hands-on training in the areas of the Singapore Workplace Safety and Health Practices (WSH), operation of plant utilities and the utilisation of the Distributed Control System (DCS).

Programme Objectives and Content:

Upon successful completion of the course, participants will be competent in the following Singapore Workforce Skills Qualifications competencies:

- **Apply Workplace Safety and Health Practices**
 - Identify responsibilities under WSH and Environmental Acts
 - Identify hazards and assess risks
 - Comply with WSH at workplace
- **Use utilities and services**
 - Operate steam systems
 - Operate compressed air systems
 - Operate nitrogen systems
 - Operate water systems (cooling, potable, fire, sea, boiler)
 - Operate auxiliary services
- **Operate Distributed Control System (DCS)**
 - Call up process displays on DCS
 - Perform control operations using DCS
 - Monitor historical data on DCS
 - Respond to process alarms on DCS

Who Will Benefit:

- Engineers or process technicians from different engineering disciplines, such as software engineer, DCS programme designer, mechanical engineer, electrical engineer and instrumentation engineer.
- Engineering consultants and technicians who have no exposure to hydrocarbon plant operations.
- Participants who wish to have a firsthand view and understanding of Chemical Plant operations.

Duration:

5 Days

Certification:

A certificate and the WSQ Statements of Attainment will be issued to participants who successfully complete the course.

Pre-requisites:

Open to all participants

Course Fees:

- Please contact the course administrator at +65 6880 2000 for information regarding course booking and fee structure.
- Singaporean and Singapore PR participants are eligible for the Singapore Workforce Development Agency's course fee and Absentee Payroll subsidies, subject to terms and conditions.

HEALTH, SAFETY & ENVIRONMENTAL COURSES

BRIDGING COURSE FOR CONFINED SPACE SAFETY ASSESSOR

Ref: CT8006

Programme Overview:

The Bridging Course for Confined Space Safety Assessor is catered for participants who do not possess the minimum education requirements, stipulated by the Ministry of Manpower, needed to take on the “Confined Space Safety Assessor” course. Participants will be taught chemistry based on GCE ‘O’ Level guidelines as well as basic electrical theories. Upon successful completion and passing of this course, these trainees can then enrol for the “Confined Space Safety Assessor” Course.

Programme Content:

On successful completion of the course, trainees will be competent in the understanding of:

- Solids, liquids and gases
- Units of measurement
- Atomic Structures and Period table of Elements
- Chemical Mole
- Air, oxygen and common industrial gases
- Redox reactions
- Acid and bases
- Organic and inorganic Chemistry
- Electricity

The trainees will also:

- Acquire basic laboratory analysis methods

Who Will Benefit:

Workers, Process Technicians and Safety personnel without the minimum GCE ‘O’ Level Chemistry requirement needed to attend the Confined Space Safety Assessor Course.

Duration:

3 days

Certification:

A Petrofac Training Institute certificate will be issued to trainees who successfully complete the bridging course.

Pre-requisite

Open to all participants

Course Fees:

S\$642.00 inclusive of GST

CHEMICAL HAZARD COMMUNICATION FOR OPERATORS AND TECHNICIANS

Ref: CT0012

Course Overview:

Operators and Technicians are exposed in a multitude of different chemicals every day. These chemicals can and do pose a serious risk to the health and safety of all employees. Whilst a great deal of information is available relating to the particular hazards associated with different chemicals, this information can at times appear difficult to interpret by these employees. This training course provides the Operators and Technicians the basic information on the hazardous chemicals used in the workplace. It also includes training to operators and technicians on how to protect themselves from the effects of these hazardous chemicals. The course is designed to be interactive with a mix of theoretical and practical demonstrations to reinforce principles and concepts introduced during theory presentations. Delegates are evaluated by means of a short assessment.

Course Content:

- What are hazardous chemicals
- How hazardous chemicals affect the body
- What are the different types of hazardous chemicals
- What is on product labels
- What are material safety data sheets
- How to protect yourself from hazardous chemicals

Who Will Benefit:

- All operational staff working on site who require basic information
- All personnel who may have direct or indirect involvement with chemicals in the workplace

Duration:

0.5 Day

Certification:

A Petrofac Training Institute certificate will be issued to each delegate on successful completion of the course.

Pre-requisites:

Open to all participants

Course fees:

SGD\$53.50 (inclusive of GST) per pax for minimum pax of 20

Programme Overview:

This one-day course provides participants with the knowledge and skills to conduct gas testing at a work site using a gas meter, to check for the presence of combustible gases before hot work can be carried out.

Programme Content:**Theory**

- Introduction
- Legislation, Singapore Factories Act
- Chemistry of Fire/Explosion
- Fire/Explosion & Toxic Hazards
- Gas Testing Apparatus
- Testing Procedure
- Maintenance of Testing Apparatus

Practical

- Conduct “Bump” Test

Who Will Benefit:

Supervisors, technicians and contractors who need to use gas test meters to ensure that work place is free of combustible gases prior to performing hot work.

Duration:

1 day

Certification:

The Certificate of Attendance is issued to participants at the end of the course.

Pre-requisite

Participants should have hands-on experience using a portable combustible gas test meter.

Course Fees:

S\$214.00 inclusive of GST

OIL/PETROCHEMICAL SAFETY ORIENTATION FOR WORKERS

Ref: CT0002

Programme Overview:

This one-day course provides the participants with the fundamental safety and safety awareness training necessary to work in the oil/petrochemical industry in Singapore.

Programme Content:

- Permit to work system
- Fire and explosion
- Confined space safety
- Electrical safety
- Mechanical safety
- Hand and power tools
- Chemical hazards
- Health hazards
- Falling/safety at height
- Material handling
- Road safety/traffic rules
- Safe means of access
- PPE (including practical)
- Good housekeeping
- Safety and warning signs
- Dealing with emergencies
- Case studies
- Final Test

Who Will Benefit:

Participants who are required to work in the oil/petrochemical industry in Singapore.

Duration:

1 day

Certification:

A Certificate will be issued to participants who have attended the course and pass the test.

Pre-requisite

Open to all participants

Course Fees:

S\$41.15 inclusive of GST



Emergency Response & Crisis Management Courses

Petrofac Training Services is a leading provider of competence-led training and consultancy solutions to the international oil & gas industry and is a training and competency arm of the Petrofac Group. We specialise in Emergency Response and Crisis Management (ER&CM) solutions and focus on understanding our customers' businesses and risks, they may be susceptible to. Through our experience and expertise, we provide the most effective solutions covering a number of disciplines including:

- Audit/review of ER&CM requirements against operational & business activity, for assurance, continuity & regulatory purposes
- Identification of major accident hazard scenarios
- ER&CM & Business Continuity plans & procedures development
- Design of appropriate ER&CM plans, covering infrastructure, organisational & response procedures
- Training, covering all aspects of Emergency Response, from Major Emergency Management for on-site teams, to training for the tactical office based response teams, including Media & Family Response Training
- Delivering & conducting ER&CM exercises including desk-top exercises, drills, notification & activation exercises, major exercise & etc.

Petrofac Training's services are applied at all levels, including Emergency Response for the sites, Incident Management in support of the sites, and Crisis Management at a senior level. Our highly skilled team comprises experienced safety and technical professionals.

The team provides in-depth training & consultancy solutions across all areas of safety, emergency response & technical training to our customer's management team, which benchmark best practice and in line with recognised legislative & industry requirements.

Petrofac Training Services' aim is to ensure that efficiency improvement, competence and the practice of good safety is evident right across every workforce, and that it can provide fit-for-purpose training & consultancy solutions to address specific competency gaps or risks that may exist.

Our courses are delivered at our OPITO accredited purposed built training centre and simulator in Kuala Lumpur or Singapore. We can also deliver training at our customer's premises if deem suitable. These calendar courses have been specifically developed to reflect and incorporate the latest trend and best industry practice. We are committed to providing the highest levels of services to our customers across our entire business.

ER&CM Training Courses

- Major Emergency Management Training
- Incident Management Training
- Crisis Management Training
- Chemical Hazard Awareness Training
- Media Handling Training
- Family Response Training
- Business Continuity Management
- Developing Emergency Response Procedures Training
- Design & Conduct of Emergency Response Exercises / Drills
- Introduction to Incident Command System
- Hazard Awareness for Emergency Responders

MAJOR EMERGENCY MANAGEMENT TRAINING

Ref: PTSAP-01-2010

Course Overview:

This course is designed to provide knowledge and experience in the management of major emergencies. For delegates who have actual or potential prospects of command, the course provides the first stage in the process leading to formal competency assessment. The course is based on the OPITO standards for OIM controlling major emergencies and conducted using the state of the art simulator replicating offshore or onshore emergency situations ranging from a simple false alarm to full-scale abandonment. Our customised process simulation technology can replicate a customer's asset to allow site-specific training and assessment to take place.

In Kuala Lumpur, the training centre and the simulator are accredited by the industry body OPITO for the assessment of OIM Controlling Major Emergencies.

Course Content:

- An introduction to emergency management performance criteria
- Briefing and debriefing sessions with an appraisal of readiness for formal assessment
- Classroom lectures, discussions and workshops on the essential elements and underlying principles of emergency management
- Practical scenarios, performed in a custom-built simulator. As well as acting as a member of the emergency team, or as an observer, each delegate has the opportunity of acting as the On-Scene Commander

Who Will Benefit:

- Any member or possible member of the Emergency Response Team
- Staff with responsibilities for advising or forming part of the Emergency Response Team
- Managers or supervisors who will lead or supervise the emergency response teams
- Personnel from any background who wish to learn more about major emergency management
- Applicable to both onshore and offshore personnel

Upon completion you will be able to:

- Be familiar with the roles and responsibilities of an Emergency Response Team
- Understand the principles of Command, Control and Communication
- Recognise the effect that Stress has on oneself and others
- Recognise the need for a properly equipped & ergonomically designed Emergency Response Centre
- Recognise the principles behind and the operation of an Information Management System

Duration:

4 Days

Certification:

A Petrofac Training certificate will be issued to each delegate on successful completion of the course.

Pre-requisites:

Open to all participants

This course can be conducted at CIMT suite, fully equipped with IT & audiovisual capabilities in Kuala Lumpur or Singapore.

INCIDENT MANAGEMENT TRAINING COURSE

Ref: PTSAP-02-2010

Course Overview:

An incident is any event that has caused or has the potential to cause damage to an organisations people, assets, systems or reputation. Effective, pro-active management to reduce the detrimental aspects of all incidents is essential to minimise disruption to your business. This course is designed to demonstrate the value of a structured Incident Management response when dealing with an incident.

Course Content:

- Incident Management Principles and Priorities
- Incident Management Team Organisation and Roles & Responsibilities
- Incident Management Team Interfaces and Expectations
- Incident Management Team & Emergency Response Team Integration
- Communication Pathways & Protocols
- Incident Management Team Work Process
- Incident Management Plan Overview
- Case Study / Lessons-Learned / Final Exercise

The training is designed to be interactive with numerous tabletop exercises and activities for the delegates throughout the course to re-inforce introduced principles and concepts.

Who Will Benefit:

- Any member or possible member of an Incident Management Team
- Emergency Response Team members wishing to gain a broader understanding of incident management
- Senior Management looking to build organisational Incident Management capability
- All personnel who may have direct or indirect involvement in managing an incident or crisis

Upon completion you will be able to:

- Understand the functional approach to Incident Management
- Understand the roles and responsibilities of Incident Management Team members
- Utilise Incident Management tools and processes
- Recognise the various communications methods used when managing an incident
- Understand the value of a well written Incident Management Plan

Duration:

2 Days

Certification:

A Petrofac Training certificate will be issued to each delegate on successful completion of the course.

Pre-requisites:

Open to all participants

This course can be conducted at all our regional training centres or at client's premises where requested.

CRISIS MANAGEMENT TRAINING COURSE

Ref: PTSAP-03-2010

Course Overview:

When an incident occurs, it can rapidly develop into a crisis for your business. Senior management plays a critical role in the overall management of any incident to mitigate the detrimental impacts and avoid a crisis situation occurring. This course is designed to provide practical skills and guidance to senior leaders within a business to assist them in managing a critical situation or event and ensure the ongoing continuity of the business operation.

Course Content:

- Types of Crises
- Incident Management and Crisis Management
- Crisis Management Team Organisation and Structure
- Crisis Management Team Roles and Responsibilities
- Crisis Management Team Response Process
- Principles of leadership and teamwork during a crisis
- An understanding of communications during a crisis
- Stress Awareness
- Managing Reputation
- Purpose and Scope of Crisis Management Plan
- Case Study / Lessons-Learned / Final Exercise

The training is designed to be interactive with numerous tabletop exercises and activities for the delegates throughout the course to re-inforce introduced principles and concepts. The course style will focus on the basic principles of crisis management to ensure applicability to all operations.

Who Will Benefit:

- Senior Management
- HSEQ related professionals
- Emergency Planners
- Business Continuity Professionals
- All personnel wanting a brief overview of crisis management concepts

Upon completion you will be able to:

- Recognise the types of incidents that can develop into crises
- Understand the difference between Incident management and Crisis Management
- Understand the roles and responsibilities of Crisis Management Team members
- Utilise Crisis Management tools and processes
- Understand the importance of clear communications when managing a crisis
- Understand the usage of an effective system for managing information during a crisis
- Understand the value of a well written Crisis Management Plan

Duration:

1 Day

Certification:

A Petrofac Training certificate will be issued to each delegate on successful completion of the course.

Pre-requisites:

Open to all participants

This course can be conducted at all our regional training centres or at client's premises where requested.

CHEMICAL HAZARD AWARENESS TRAINING COURSE

Ref: PTSAP-04-2010

Course Overview:

Employees in many industries are exposed to a multitude of different chemicals every day. These chemicals can and do pose a serious risk to the health and safety of all employees. Whilst a great deal of information is available relating to the particular hazards associated with different chemicals, this information can at times appear difficult to interpret. This course is designed to provide employees basic information on the types of chemicals they may be exposed to, the hazards associated with these chemicals and the information available to assist in minimising chemical hazards on a daily basis as well as during a chemical incident.

Course Content:

- Introduction to the various classes of chemicals encountered in the workplace
- Properties of different chemicals
- Hazards associated with the use, handling and storage of chemicals
- Chemical hazard information sources
- How to interpret chemical hazard information
- Strategies for reducing and minimising chemical hazards
- Safety considerations during a chemical incident

The course can be adapted to include specific chemicals and procedures for individual clients based on their particular needs.

Who Will Benefit:

- HSEQ related professionals
- Emergency Response personnel
- All personnel who may have direct exposure to chemicals in the workplace

Upon completion you will have:

- An understanding of what chemicals are, their uses and their hazards
- The knowledge to access and interpret information sources related to chemical hazards such as labels, Material Safety Data Sheets (MSDS's), DG Placards etc
- The ability to utilise all available information to assess the risks associated with the various uses of a chemical
- The understanding of appropriate safety considerations during a chemical incident, including the use of Person Protective Equipment (PPE)

Duration:

1 Day

Certification:

A Petrofac Training certificate will be issued to each delegate on successful completion of the course.

Pre-requisites:

Open to all participants

This course can be conducted at all our regional training centres or at client's premises where requested.

Course Overview:

In an incident or crisis situation your organisation will be faced with a high level of scrutiny from the industry, the government and the general public. The Media plays a key role in steering the opinion of these groups on how you as an organisation are performing in managing the event.

This highly-specialised 1 day media programme will ensure your organisation obtains a foundation of good media handling and management during an incident or crisis. Effectively managing the media will help minimise any reputation damage to your organisation and even enhance that reputation for the foreseeable future.

Course Content:

- Understanding the importance of your reputation
- An overview of what the media is and how it operates
- How to use the news media to gain positive publicity for your organisation
- Real insights into the journalists' way of thinking and operating in covering news
- How to handle press conferences and other media interviews skillfully and confidently
- How to prevent the media from turning situations into issues or controversies detrimental to your organisation
- Practical exercises under a variety of different scenarios including mock press interviews and "ambush" interviews with professional journalists and camera crew

The course is designed to be interactive with numerous group discussion sessions to reinforce principles and concepts introduced during theory presentations. Journalists' "tricks of the trade" and tricky interview techniques will also be discussed.

Who Will Benefit:

- Media Handling Personnel
- Senior Management involved in response to an incident or crisis
- All personnel who may have direct or indirect involvement in managing an incident or crisis

Upon completion you will be able to:

- Know how the media think and operate in their pursuit of news
- Appreciate the advantages of maintaining an effective media response strategy during crisis
- Gain valuable techniques in speaking to media professionals and handling media interviews
- Understand the importance of prompt and accurate press statements
- Understand the importance of taking charge of your Press Conferences
- Recognise the influence, both positive and negative the media have on your organisations reputation

Duration:

1 Day

Certification:

A Petrofac Training certificate will be issued to each delegate on successful completion of the course.

Pre-requisites:

Open to all participants

This course can be conducted at all our regional training centres or at client's premises where requested.

FAMILY RESPONSE TRAINING

Ref: PTSAP-06-2010

Course Overview:

Whenever an incident or crisis occurs, invariably the lives of many people are negatively affected. The immediate victims of an emergency are not only those that have been injured or killed but also the families and friends of those involved. The response by the employer to these affected families can adversely affect (positively or negatively) the long term reputation of the organisation and place intense public scrutiny on the effectiveness of the company to continue to operate. This course is design to ensure your organisation understands the importance of managing the care of families with compassion and sensitivity not just from a moral and ethical “duty of care” standpoint but also to ensure the viability of your business.

Course Content:

- Understanding the wide affect emergencies have on people
- How to plan for the response to victim’s families
- Practical exercises in responding to families calls over the phone
- Working with families over the medium and long term recovery process

The training is designed to be interactive with numerous tabletop exercises and activities for the delegates throughout the course to re-inforce introduced principles and concepts.

Who Will Benefit:

- Human Resources professionals
- Public Relations professionals
- Senior Management involved in response to an incident or crisis
- All personnel who may have direct or indirect involvement in managing the incident or crisis

Upon completion you will be able to:

- Gain valuable techniques in speaking to families of victims and the general public
- Understand the importance of sensitivity when dealing with families
- Understand the various response strategies required at various times during the recovery period
- Recognise the influence, both positive and negative the families have on your organisations reputation

Duration:

1 Day

Certification:

A Petrofac Training certificate will be issued to each delegate on successful completion of the course.

Pre-requisites:

Open to all participants

This course can be conducted at all our regional training centres or at client’s premises where requested.

BUSINESS CONTINUITY MANAGEMENT COURSE

Ref: PTSAP-07-2010

Course Overview:

This Business Continuity course gives an overview of the principles and practice of Business Continuity Management, based on the British Standards Institution of the Business Continuity Institute's Best Practice Guidelines. This course will help delegates who may not have in depth knowledge of Business Continuity to understand the fundamental elements of planning and developing a Business Continuity Plan within their organisation. This course is based on industry best practice and guidelines for business continuity.

Course Content:

- Introduction and overview of Business Continuity Management
- The language, concepts and tools of Business Continuity
- How to conduct a Risk Analysis and Business Impact Analysis
- Understanding the key elements of a continuity plan
- Developing and implementing the continuity plan
- How to exercise and test the continuity plan
- Maintaining and embedding Business Continuity Management in the culture of the organisation

The course is designed to be interactive with numerous group discussion sessions to reinforce principles and concepts introduced during theory presentations.

Who Will Benefit:

- Directors and Senior Managers with responsibility for planning and managing risk
- Business Continuity Professionals
- Operations Managers
- Risk Management Managers
- IT Managers
- All personnel who need to get up to speed quickly with terminology and practices of Business Continuity Management

Upon completion you will:

- Recognise and appreciate the need for business continuity management planning
- Have the understanding of the importance of planning and developing BC Plans for your organisation
- Understand the key elements of a business continuity plan
- Understand the basic and necessary applicability of the business continuity industrial practices within your job responsibilities
- Understand the benefits and be aware of some of the pitfalls in Business Continuity Management
- Gain the tools to understand and build key elements of a business continuity plan for your organisation

Duration:

1 Day

Certification:

A Petrofac Training certificate will be issued to each delegate on successful completion of the course.

Pre-requisites:

Open to all participants

This course can be conducted at all our regional training centres or at client's premises where requested.

DEVELOPING EMERGENCY RESPONSE PROCEDURES COURSE

Ref: PTSAP-08-2010

Course Overview:

The ability of your organisation to effectively manage an incident or crisis is underpinned by ensuring “fit for purpose” emergency procedures are developed and implemented into the cultural of the company. Emergency Procedures are unfortunately often treated as a “compliance” document. As a consequence, the emergency procedures fail to achieve their original purpose of clearly informing the end user of actions and guidance during times of stress and chaos. This course is designed to demonstrate how well designed emergency procedures can provide practical assistance to your emergency responders.

Course Content:

- The aim of procedures during an incident or crisis
- Procedures development planning
- Data gathering for the procedures
- Design and formatting of various procedures and plans
- Establishing what content is required in procedures at different levels of the organisation
- Testing and maintaining your procedures

The course is designed to be interactive with numerous group discussion sessions to reinforce principles and concepts introduced during theory presentations.

Who Will Benefit:

- Emergency Response personnel
- HSEQ related professionals
- Operations personnel
- Senior Management
- All personnel who may have direct or indirect involvement in managing an incident or crisis

Upon completion you will be able to:

- Recognise the purpose and value of emergency procedures
- Project manage the development of your procedures
- Understand the consultative nature of procedure development
- Customise various designs and layouts of procedures to suit the end users
- Effectively implement your procedures and maintain them

Duration:

1 Day

Certification:

A Petrofac Training certificate will be issued to each delegate on successful completion of the course.

Pre-requisites:

Open to all participants

This course can be conducted at all our regional training centres or at client’s premises where requested.

DESIGN & CONDUCT OF EMERGENCY RESPONSE EXERCISES / DRILLS

Ref: PTSAP-09-2010

Course Overview:

Emergency Response exercises/drills are an integral component in your company's health and safety system. A well designed, conducted and evaluated Emergency Response exercise can provide valuable insights into your company's ability to manage a serious incident. It can also provide you with an opportunity to identify and rectify any deficiencies in a controlled environment. This course is designed to provide delegates with information on the different types of Emergency Response exercises/drills that can be conducted to achieve specific outcomes and their relative advantages and limitations. The course will also introduce delegates to the collaborative approach required to undertake an effective Emergency Response exercise/drill.

Course Content:

- Introduction to the various types of Emergency Response exercises/drills
- Advantages and Limitations of various Emergency Response exercises/drills
- Exercise Development project milestones and timeline
- Exercise Participant and Simulator/Role Player selection and briefing
- Exercise Conduct and Evaluation
- Exercise Reporting and presentation of findings
- Exercise Process cycle

The course is designed to be interactive with numerous group discussion sessions to reinforce principles and concepts introduced during theory presentations.

Who Will Benefit:

- All personnel responsible for design or conduct of Emergency Response exercises/drills
- Training and Development professionals
- HSEQ related professionals
- Senior Management
- Emergency Response personnel
- Business Continuity professionals
- All personnel who may participate in Emergency Response exercises/drills

Upon completion you will have:

- An understanding of the various types of Emergency Response exercises/drills available and their most appropriate use
- An ability to project plan an Emergency Response exercise/drill of significant complexity and scale
- An understanding of how to conduct and evaluate Emergency Response exercises/drills and how to present your findings and recommendations
- Knowledge of the overall exercise process cycle

Duration:

1 Day

Certification:

A Petrofac Training certificate will be issued to each delegate on successful completion.

Pre-requisites:

Open to all participants

This course can be conducted at all our regional training centres or at client's premises where requested.

INTRODUCTION TO INCIDENT COMMAND SYSTEM

Ref: PTSAP-10-2010

Course Overview:

The Incident Command System (ICS) is recognised as being one of the most structured and efficient systems for managing incidents. It provides clarity around the roles and responsibilities of all personnel involved in managing an incident. Additionally, it provides common terminology and clarity of communications between responders. This course provides a foundation upon which to enable entry-level personnel to function appropriately in the performance of incident-related duties.

Course Content:

- Introduction to ICS
- Basic Features of ICS
- Incident Commander and Command Staff Roles and Responsibilities
- General Staff Roles and Responsibilities
- Common Responsibilities
- Incident Management Facilities

The training is designed to be interactive with numerous tabletop exercises and activities for the delegates throughout the course to reinforce introduced principles and concepts.

Who Will Benefit:

- Any member or possible member of an Emergency Response Team or Incident Management Team
- Staff with responsibilities for advising or forming part of the Emergency Response Team
- All personnel who may have direct or indirect involvement in managing an incident
- Personnel from any background who wish to learn more about incident management

Upon completion you will be able to:

- Recognize the basis for and basic features of the Incident Command System
- Understand the roles and responsibilities within the Incident Command System
- Understand the communications pathways and protocols used within the Incident Command System
- Identify resources and facilities required to support the Incident Command System

Duration:

1 Day

Certification:

A Petrofac Training certificate will be issued to each delegate on successful completion of the course.

Pre-requisites:

Open to all participants

This course can be conducted at all our regional training centres or at client's premises where requested.

HAZARD AWARENESS FOR EMERGENCY RESPONDERS

Ref: PTSAP-11-2010

Course Overview:

The response to an emergency in an industrial environment can present unique challenges to the safety and effectiveness of the frontline emergency responders. In the initial stages of an emergency the instinctive nature to do something seemingly positive can in fact be leading well meaning personal into danger for themselves and their colleagues. Understanding the characteristics of hazards in the industrial environment and the appropriate tactics to be employed can ensure your response is not only safe but highly effective.

Course Content:

- Basic response philosophy in the industrial environment
- Identification of hazards and their characteristics
- Detection and mitigation methods
- Employing appropriate tactics for responding to the emergency
- Continual use of case studies of hazards and response tactics

The course is designed to be interactive with numerous group discussion sessions to reinforce principles and concepts introduced during theory presentations.

Who Will Benefit:

- Emergency Response Team members
- Incident Management Team members
- All operational staff working on site
- All personnel who may have direct or indirect involvement in managing an emergency/crisis

Upon completion you will be able to:

- Recognise the various type of hazards present during an emergency
- Understand the consequence of those hazards on people and plant
- Determine appropriate tactics for your operating plant
- Utilise concepts such as “dynamic risk assessment” and “command and control”
- Understand how to ensure the safety of the frontline responders

Duration:

1 Day

Certification:

A Petrofac Training certificate will be issued to each delegate on successful completion of the course.

Pre-requisites:

Open to all participants

This course can be conducted at all our regional training centres or at client's premises where requested.

PROCESS PLANT MAINTENANCE : MECHANICAL COURSES

PUMP FUNDAMENTALS

Ref: CT1000

Programme Overview:

The 5 day Pump Fundamentals course is one of the Flowserve industry leading training programmes. Pump Fundamentals delivers the industry's knowledge and skill standards on Pumps in the areas of design and operations.

Programme Content:

Course Outline

- Identify and describe basic centrifugal pump design and pumping system hydraulics
- Identify classical cavitations, recirculation, and Net Positive Suction Head (NPSH)
- Describe acceptable and preferred regions of pump operation including minimum flow
- Describe impeller design as it relates to specific speed and suction specific speed
- Describe pump and system interaction
- Describe best practices of suction pipe work
- Understand the impact of submergence on pump performance
- Describe pump bearing types and lubrication
- Understanding how vibration impacts pump performance
- Understand the criteria for driver selection

Who Will Benefit:

Rotating machinery engineers, reliability engineers, process engineers, operators, maintenance supervisors, millwrights and technicians who interact with and/or operate pumps, mechanical seals and related equipment.

Duration:

5 days (3 days training at Flowserve's chosen location and 2 days training at CPTC, Jurong Island)

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

Open to all participants

Course Fees:

S\$2,675.00 inclusive of GST

MECHANICAL SEAL FUNDAMENTALS

Ref: CT1100

Programme Overview:

The 5 day Mechanical Seal Fundamentals course is one of the Flowserve industry leading training programmes. Mechanical Seal Fundamentals delivers the industry's knowledge and skill standards on Mechanical Seals in the areas of design and operations.

Programme Content:

Course Outline

- Describe the need for Mechanical Seals in modern Rotating Shaft Equipment
- Describe the basic Principles and Terminology associated with Mechanical Seal design and operations.
- Describe the difference between Single, Dual, Liquid and Dry Running Mechanical Seals
- Describe proper Pump and Seal Selection Applications and Operations while considering product, reliability and environmental implications
- Describe the relationship between equipment conditions and operational reliability
- Discuss how to alter or enhance the seal environment through the use of various auxiliary piping plans.
- Understand basic principles and properties of fluids for operations and performance of mechanical seals.
- Understand the mechanics of reading mechanical seal assembly drawing.
- Demonstrate how to install and test various Mechanical Seals.
- Operate pumps and training testers correctly and identify conditions of operations that are detrimental to the safe, reliable and sustained performance of the machine and seal.

Who Will Benefit:

Engineering, reliability, maintenance and management personnel requiring knowledge of modern mechanical seals, support systems and their proper selection, application and use.

Duration:

5 days (3 days training at Flowserve's chosen location and 2 days training at CPTC, Jurong Island)

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

Open to all participants

Course Fees:

S\$2,675.00 inclusive of GST

Programme Overview:

In this 5-day course, Pump & Seal Specialist Level 2 builds on what the participants had learnt in the Flowserve Pump and Seal fundamental programmes. It is primarily intended to enhance the pump, seal, and pumping system expertise of participants.

Programme Content:

Course Outline

- Describe breakdown of most common pump failures by component
- Identify and describe a wide variety of pump failures and their causes
- Identify and describe a wide variety of mechanical seal failures and their causes
- Identify and describe preventative, predictive, and proactive pumping system practices
- Perform basic pump system troubleshooting • identify and describe solutions to bad actor pump systems
- Perform a field test to create a four point pump performance curve
- Identify and describe common seal face materials
- Describe effects of seal balancing
- Describe advantages and limitations of metallic and non-metallic materials including pump, mechanical seal, and elastomeric materials

Who Will Benefit:

Rotating machinery engineers, reliability engineers, process engineers, operators, maintenance supervisors, millwrights and technicians of who interact with and/or operate pumps, mechanical seals and related equipment.

Duration:

5 days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

Recommended for participants who have completed Flowserve’s Pump and Mechanical Seal Fundamental courses.

Course Fees:

S\$2675.00 inclusive of GST

DISTRIBUTED CONTROL SYSTEM COURSES

ADMINISTRATION OF UNIFORMANCE R210 PHD BACKGROUND APPLICATIONS

Ref: CT4041

Programme Overview:

This course covers configuration and management of the Uniformance Applications Server and PHD applications. At the end of the course, participants will learn how to use optional features of PHD such as TPN Event Journal Collection, PHD to Relational, Relational to PHD Database Synchronization (TagSync) and Uniformance Applications Server.

Programme Objectives and Content:

- Collect data from the TPN History Module Event Journals
- Transfer PHD data to Oracle tables for the use of business applications which cannot access PHD natively
- Transfer data to PHD from Oracle tables
- Synchronize selected PHD tag definition information with tag definition information returned from source DCS systems

Who Will Benefit:

PHD administrators, managers and lead PHD users.

Duration:

2 days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

Ideally participants should have taken and received certification in 'Uniformance R210 PHD System Administration' - Course Ref CT4040

Course Fees:

S\$1,059.30 inclusive of GST

APPLICATION MODULE IMPLEMENTATION

Ref: CT4010

Programme Overview:

This Universal Station-based course provides participants with hands-on introduction to configuring Application Module (AM) points, Control Language (CL) programs, Custom Data Segments and linking them together in supervisory control schemes. Control schemes are implemented on the AM using the Universal Station (US) as the user interface and the Data Entity Builder (DEB) as the configuration tool.

Programme Content:

- Build and operate the following AM point types: Regulatory, Numeric, Flag, and Custom
- Create a custom control algorithm using AM Control Language
- Create an Indirect Reference Program using Custom Data Segments
- Create and use an AM Control Language Package and Custom Enumeration
- Allocate AM memory and configure optional, custom, and background AM functions in the Network Configuration File (NCF)
- Use optional External Load Modules to read from and write to text files, access HM continuous history and access higher level mathematical subroutines

Who Will Benefit:

Total Plant Solution Network (TPN) participants who:

- Are new to AM CL
- Require advanced supervisory control
- Are looking to optimize operations

Duration:

5 days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

Participants should be familiar with one of the following:

- Local Control Network / Universal Control Network Implementation (3300HPM, APM or PM) or
- Local Control Network / Hiway Implementation - (3300CB, EC, MC or AMC)

Course Fees:

S\$2,311.20 inclusive of GST

EXPERION PKS CONTROL EXECUTION ENVIRONMENT C300

Ref: CT4052

Programme Overview:

This course provides participants with the ability to conduct the following Experion PKS System tasks:

- Build control strategies in the Control Execution Environment that can be applied to the C200 and the ACE.
- Plan the C200 controller including the selection of appropriate I/O, redundancy and communications
- C 200 Control Module configuration. This includes configuring Data Acquisition, Regulatory Control and Logic
- C 200 Sequential Control Module configuration. This includes the use of steps, transitions, and handlers to implement process sequences
- Loading and start up including loading the controller
- Configure Procedural Operations using Sequential Control Modules

This course presents the basic concepts and strategies needed to develop guidelines for effective and consistent planning of the Experion PKS System. It includes extensive hands-on application in the specialist training laboratory where participants will build and configure a C200 controller.

Programme Content:

- Recognize the role of the major hardware and software components and learn how data flows through the C 200 Controller
- Plan the C 200 Controller
- Select appropriate components of the C200 controller, including processors, I/O and communications
- Configure the C 200 Controller including:
 - Hardware
 - Control Modules, which incorporate Data Acquisition, Regulatory Control and Logic
 - Sequential Control Modules which are used to control Process Sequences, such as start up, shut down and Batch operations
- Configuration of Procedural Operations - Interactive Instructions which allows a seamless combination of Operator guided manual intervention and automatic control

Who Will Benefit:

Experion PKS System Implementers

Duration:

5 days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

Prerequisite knowledge and/or ability in:

- Microsoft Windows 2000 Professional User Fundamentals - 72006 or
- Successful completion of Windows 2000 pre-test with a minimum score of 80% available at enrolment

If job responsibility includes the implementation and configuration of the Experion PKS Server:

- Experion PKS Process Server Engineering and Configuration - (EXP02 or EXP10002) or
- PlantScape Server and Station Implementation - R500 (0427)

If job responsibility includes only C200 controller:

- Be able to navigate the Experion PKS Station
- Call up point detail, group, and/or custom displays

Desirable Skills and/or Experience:

- Plant, process, and controls knowledge
- Configuration of a DCS controller

Course Fees:

S\$2,140.00 inclusive of GST

Programme Overview:

This course provides participants with the ability to develop display design guidelines and build HMIWeb Displays for Experion PKS

Graphics display training is divided into two sections:

- The first section presents the basic concepts and strategies needed to develop guidelines for effective and consistent Display Design.
- The second section is an extensive hands-on workshop. Participants will develop Experion PKS operating displays using the HMIWeb Display Builder.

Programme Content:

- Develop a Display Design Guide considering performance and capacity available on your Experion PKS system
- Specify Operator interaction with displays
- Design display level hierarchies, point manipulation options, navigation
- Specify Shape Libraries
- Specify Display Standards
- Specify file naming conventions and directory structure for displays
- Build Displays using HMIWeb Display Builder
- Using the tools and navigation
- Using the Shape Library
- Using the Script Editor
- Create display elements
- Create templates, dynamic shape files, shape sequences, popup, faceplates, and attach scripts to objects
- Create new operating displays
- Insert shapes
- Add Internet links and other navigation techniques
- Use of Cascade Style Sheets
- Use of Shortcut Menus
- Build Safe view configurations to manage

Who Will Benefit:

Experion PKS System Implementers

Duration:

4 days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

Prerequisite knowledge and/or abilities in:

- Microsoft Windows 2000 Professional User Fundamentals - 72006 or
- Successful completion of Windows 2000 pretest with a minimum score of 80% available at enrollment

Desirable Skills and/or Experience:

- Plant, process or controls knowledge
- Operator display design

Course Fees:

S\$1,712.00 inclusive of GST

Programme Overview:

This course develops the participant's knowledge and skills in the operation of the Experion PKS System, consisting of the Experion PKS Server, Fault Tolerant Ethernet and C200 controllers. Participants will also be trained to understand and interpret the standard Experion PKS Station displays and HMIWeb graphic displays, which are used to control and monitor both analog, digital process points and process alarms.

Programme Content:

- Log on and off the Experion PKS Station, including Station and Operator based logon.
- Use Windows navigation tools
- Use standard operating displays including the Experion PKS Faceplates, Group displays, and Point Detail displays
- Use Point Detail display and faceplates to make process changes
- Identify control conventions (automatic, manual, cascade, PV tracking, and program)
- Navigate through standard operating displays
- Identify color conventions
- Use Alarm displays and HMIWeb displays to identify and respond to abnormal conditions.
- Use Procedural Operations - Interactive Instructions to combine manual operations with automatic operations in a consistent manner.
- Identify and use tools available on the Experion PKS system to analyze process upsets. Use Trends and Group Trend displays
- Use the many Reporting and Event retrieval tools to customize reports and displays.
- Access the built in online Help documents.

Who Will Benefit:

Experion PKS Station Operators who:

- Require basic PC and Server based Distributed Control System (DCS) training
- Need to understand the differences between TPN (US and GUS stations) and the Experion PKS Station operating environments
- Need refresher training on operating the Experion PKS Station

Duration:

3 days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

Open to all participants

Course Fees:

S\$1,284.00 inclusive of GST

EXPERION PKS SERVER ENGINEERING AND CONFIGURATION

Ref: CT4051

Programme Overview:

This course provides participants with the ability to conduct planning of Server, Stations, Fault Tolerant Ethernet, configuration of Enterprise Model; SCADA Points, Alarms, Alarm Groups, Preformatted and Custom Reports.

At the end of the programme participants will have a conceptual understanding of the server's design and optimum utilization parameters, with the skills to configure the server for optimum data collection.

Programme Content:

- Recognize the role of the major hardware and software components and learn how data flows through the Experion PKS Server
- Plan the Experion PKS Server and the Fault Tolerant Ethernet
- Configure Stations, Flex, Console, and Console Extensions
- Configure Report printers
- Configure the Experion PKS Server for Process
- Control functionality such as:
 - SCADA Controllers and Points
 - Configuring alarm settings
 - Alarm, Event, and Message Summaries
- SCADA Point Algorithms
- History Archiving
- Group and Trend Displays
- Point schedules
- Alarm Paging
- Recipes
- Data exchange with Microsoft Excel

Who Will Benefit:

Experion PKS System Implementers

Duration:

5 days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

- Distributed Control System tag knowledge
- Microsoft Windows / Excel (basic navigation and use of toolbar)

Course Fees:

- S\$2,140.00 inclusive of GST

Programme Overview:

This course provides participants with a hands-on introduction to operating and configuring a Fail Safe Control (FSC) System, consisting specifically of Fail Safe Controllers, Stand Alone Computers, Universal Stations/Global User Stations and/or PlantScape Systems. Participants will develop skills in implementing a FSC System by configuring FSC parameters and points, along with TotalPlant Solution Network (TPN) point building.

At the end of the course, participants will gain the skills required to diagnose faults and troubleshoot a FSC system from the power-on state to an operational state. Participants will be able to identify hardware components of the FSC System, utilize tools to facilitate system maintenance and support functions; design functional logic diagrams and project applications. This course further establishes the participants' foundation for progressive in-depth implementation or maintenance training.

Programme Content:

- Identify FSC hardware and their functions
- Navigate and manipulate FSC Navigator Software Package
- Manipulate and operate FSC Units
- Load and operate a functional application
- Troubleshoot the FSC System
- Implement Diagnostics
- View diagnostics from FSC, TPS, and Plantscape systems
- Operate On Line functionality Parameters(forces, writes, custom screens...etc)
- Operate functional logic diagrams
- Operate UCN status displays for Safety Managers
- Connect Safety Managers to the UCN
- Connect Safety Managers to the Plantscape System
- Identify FTA's
- Design Functional Logic Diagrams
- Operate and build FSC and TPN points
- View FSC points on a PlantScape system
- Make On-line modifications

Who Will Benefit:

FSC participants who are:

- New to FSC system implementation
- Responsible for implementing and/or supporting an existing FSC System
- Require broad familiarization with most of the FSC system's capabilities

Duration:

5 days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

Participants should be familiar with their plant's process control environment

Course Fees:

S\$2,311.00 inclusive of GST

FAIL SAFE CONTROLLER MAINTENANCE

Ref: CT4031

Programme Overview:

This course provides participants with a hands-on introduction to operating a Fail Safe Control (FSC) System consisting specifically of Fail Safe Controllers, Stand Alone Computers, Universal Stations/Global User Stations and PlantScape Systems. Participants will develop skills in operating the FSC System from a maintenance engineering point of view.

At the end of the course, participants will gain FSC operating skills, identify hardware components of the FSC System, gain the skills required to diagnose faults and troubleshoot a FSC system from a power-on state to an operational state; utilize tools to facilitate system maintenance and support functions. This course further establishes the participants' foundation for progressive in-depth implementation or maintenance training.

Programme Content:

- Identify FSC hardware and their functions
- Navigate and manipulate the FSC Navigator Software Package
- Manipulate and operate FSC Units
- Load and operate a functional application
- Troubleshoot the FSC System
- Manipulate Diagnostics
- View diagnostics from FSC, TPS, and PlantScape System
- Operate On Line functionality Parameters (forces, writes, custom screens...etc)
- Operate functional logic diagrams
- Operate UCN status displays for Safety Managers
- Connect Safety Managers to the UCN and to the PlantScape System
- Identify FTA's

Who Will Benefit:

Participants who are:

- New to FSC system implementation
- Responsible for implementing and/or supporting an existing FSC System
- In need of a broader familiarization of the FSC system's capabilities

Duration:

3 days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course.

Pre-requisite

- Microsoft Windows NT 4.0: User Fundamentals - 71006, or
- Successful completion of Windows NT pre-test with a minimum score of 80%, pre-test upon at enrolment.

Course Fees:

S\$1,733.40 inclusive of GST

GUS/LCN/UCN IMPLEMENTATION REFRESHER

Ref: CT4001

Programme Overview:

This Global User Station (GUS)-based course provides participants with a hands-on review of the operation and configuring of a Total Plant Solution (TPS) System; consisting of a Local Control Network (LCN), a Universal Control Network (UCN) and an HPM controller using the Data Entity Builder (DEB) as the configuration tool.

Participants will develop skills in setting operating points and cascades, configuring Native Window, configuring the TPS network and its nodes, building HPM point database, creating basic GUS displays, configuring an operator keyboard and setting up reports.

Programme Objectives and Content:

- Identify GUS, LCN and UCN hardware and their functions
- Navigate and manipulate Native Window operational and system displays including the Group, Detail, Alarm Summary, Console, System and UCN Status displays
- Manipulate LCN formatted files on the HM or Emulated Disk through the Command Processor
- Configure the GUS for TPS System operations using the Configuration Utility
- Create a Network Configuration File to establish fundamental system definitions
- Initialize a HM to establish it as the system file server and historical data collector
- Configure a UCN consisting of a NIM and HPM
- Operate and build HPM analog I/O, Regulatory control and Regulatory Process Variable type points, including cascade control loops
- Create a configurable GUS keyboard button file
- Define parameters for history collection on the HM
- Create a simple GUS graphic
- Define the Area Database to customize the operations environment including assigning units for operational control, building group displays, defining graphic invocation search paths and creating logs, journals and reports
- Optionally utilize system support and administration tools including the TPS Status display, Command Files, Exception Build files, the Documentation Tool, and Virtual Printers

Who Will Benefit:

- Participants responsible for implementing and/or supporting an existing Local Control Network (LCN) and Universal Control Network (UCN) using GUS and DEB or
- Participants who need to re-acquaint themselves with much of the TPS system's capabilities.

Duration:

5 days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

Participants should be familiar with their plant's process control environment

Course Fees:

S\$2,311.20 inclusive of GST

GLOBAL USER STATION / LOCAL CONTROL NETWORK / UNIVERSAL CONTROL NETWORK IMPLEMENTATION USING DATA ENTITY BUILDER

Ref: CT4003

Programme Overview:

This course will allow participants to obtain basic operating skills of the Local Control Network (LCN) and Universal Control Network (UCN), identify hardware components of the LCN and UCN, gain the basic skills required to implement the LCN and UCN from a power-on state to an operational state. In addition, participants will also be able to facilitate system implementation and support functions, establishing the foundation for progressive in-depth implementation or maintenance training.

Programme Content:

- Identify GUS, LCN and UCN hardware and their functions
- Navigate and manipulate Native Window operational and system displays including the Group, Detail, Alarm Summary, Console, System and UCN Status displays
- LCN formatted files on the HM or Emulated Disk through the Command Processor
- Configure the GUS for TPS System operations using the Configuration Utility
- Create a Network Configuration File to establish fundamental system definitions
- Initialize a HM to establish it as the system file server and historical data collector
- Configure a UCN consisting of a NIM and HPM
- Operate and build HPM analog I/O, regulatory control and regulatory process variable type points, including cascade control loops
- Create a configurable GUS keyboard button file
- Define parameters for history collection on the HM
- Create a simple GUS graphic
- Define the Area Database to customize the operations environment including assigning units for operational control, building group displays, defining graphic invocation search paths and creating logs, journals and reports
- Optionally utilize system support and administration tools including the TPS Status display, Command Files, Exception Build files, the Documentation Tool, and Virtual Printers

Who Will Benefit:

TPS implementation and support personnel.

Duration:

10 days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

Open to all participants

Course Fees:

S\$4,044.60 inclusive of GST

HONEYWELL CONTROL SYSTEM OVERVIEW

Ref: CT4002

Programme Overview:

This two day course provides participants with an overview of the basic features, functions, terminology and control philosophy of the Honeywell Distributed Control Systems (DCS). Participants will learn what a DCS system is, what it can do, what information it can provide, and what is involved in its implementation, operation and maintenance. This course is intended to assist individuals in system and resource management.

Programme Content:

- TPS System Overview
- TPS System Hardware and Software
- TPS Configuration Products
- Uniformance
- PlantScape
- Fieldbus

Who Will Benefit:

Technical and non-technical participants who require a high-level overview of Honeywell DCS products. These individuals will include, but not limited to, those who have responsibilities in operations, engineering, production, maintenance, purchasing, finance and/or human resources.

Duration:

2 Days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course.

Pre-requisites:

Open to all participants.

Course Fees:

S\$1,059.30 inclusive of GST

HIGH PERFORMANCE PROCESS MANAGER POINTS AND CL IMPLEMENTATION USING THE DATA ENTITY BUILDER

Ref: CT4004

Programme Overview:

This Global User Station (GUS)-based course provides participants with a hands-on introduction to operating and configuring the full range of High Performance Process Manager (HPM) point types and to creating HPM Control Language (CL) programs using the Data Entity Builder as the configuration tool. The HPM point types covered include: Digital Composite, Logic, Device Control, Flag, Numeric, Timer, Array, Pulse Input, Sequence of Events (SOE), Smart Transmitter and Serial Interface (SI) Array. Program implementation includes creating Process Module points and writing HPM CL programs.

At the end of the course, participants will be able to identify problems with the UCN nodes more effectively and efficiently. Participants will also learn preventive maintenance and troubleshooting techniques.

Programme Content:

- Operate and configure HPM Digital Composite, Logic, Flag, Numeric, Timer, and Array points
- Operate a Process Module point by loading and running its associated HPM CL program
- Configure Process Module points and create their associated HPM CL programs
- Write and implement Abnormal Condition Handlers
- Operate and configure Device Control, Pulse Input, Sequence of Events, Smart Transmitter and Serial Interface Array points

Who Will Benefit:

Participants who have previous TPS Implementation training and require more in-depth knowledge of the various HPM point types and its applications; basic HPM CL programming and implementation skills.

Duration:

5 days

Certification:

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course

Pre-requisite

Participants should be familiar with TPS Implementation.

Course Fees:

S\$2,311.20 inclusive of GST

ERROR: stackunderflow
OFFENDING COMMAND: ~

STACK: