

TPO Short Course Offerings

as of 1st October 2019



TPO

تکاتف پتروفاک عُمان
TAKATUF PETROFAC OMAN



Multi-Trade



Course Title	Breakdown of Course	Duration	Pre-requisites	Max no. of Candidates	International Accreditation
Piping and Instrumentation Drawings (P&ID's)	<ul style="list-style-type: none"> • Introduction to Drawings • Orthographic Drawings • Isometric Drawings • Exploded Drawings • Process Flow (PFD) & Piping & Instrument Diagrams (P&ID) • Loop Diagrams • Single-Line Diagrams for Electrical Installation • Hook Up Drawings • Layout or Location Drawings • Cable Schedule • Schematic Diagrams • Logic Diagrams • Cause and Effect Drawings • Hazardous Area Drawings • As Built Drawings 	5 Days	None	10	Yes
Introduction to Condition Monitoring	<ul style="list-style-type: none"> • The benefits of Condition Based Monitoring • Reasons for selecting particular maintenance strategies • Effective methodologies for implementing Condition Monitoring Techniques • Optimum maintenance strategy for different types of equipment • Strengths and weaknesses of condition monitoring techniques • Awareness of ISO 17359:2011 and understand how this can be applied to T&RS 	2 Days	Experience as a Maintenance Technician	10	No
Fundamentals of Condition Monitoring and Vibration Analysis	<ul style="list-style-type: none"> • Important terms and definitions in reliability statistics and FRACAS • Relate the basic philosophy behind Life Cycle Cost (LCC) analysis • Understand the importance of Reliability Centred Maintenance (RCM) • Describe three methods of Root Cause Analysis (RCA) • Identify the basic principles of Predictive Maintenance (PdM) inspections • Discuss the components of Human Factors Engineering in reliability 	2 Days	Experience as a Maintenance Technician	10	No

Course Title	Breakdown of Course	Duration	Pre-requisites	Max no. of Candidates	International Accreditation
NVQ Assessment Training					
Assessor Course (Level 3 Cert in Assessing Vocational Achievement)	<ul style="list-style-type: none">• Understanding the Principles and Practices of Assessment• Assess Occupational Competence in the Work Environment• Assess Vocational Skills, Knowledge and Understanding	5 day	Min 4 GCSE's Inc. Math & English, and orBTEC First DiplomaGNVQ Intermediator an NVQ Level 2 Qualification andRecognised Award in area of assessing	10	Yes
IQA Course (Level 4 Certificate in Leading the Internal Quality Assurance of Assessments)	<ul style="list-style-type: none">• Understanding the Principles and Practices of Externally Assuring the Quality of Assessment• Plan, Allocate and Monitor Work in Own Area of Responsibility• Externally Assure the Quality of Assessment	3 day	Min 4 GCSE's Inc. Math & English, and orBTEC First DiplomaGNVQ Intermediator an NVQ Level 2 Qualification andRecognised Award in area of assessingExperience as an Assessor, preferred	10	Yes
Introduction to PLC	<ul style="list-style-type: none">• Introduction to Programmable Logic Controller (PLC)• Components of PLC• Logic Instructions• Ladder Logic Programming• Risk of PLC failure• Number System• Terminology• Wiring of a PLC• Fault Finding Techniques	3 day			

Instrumentation



Course Title	Breakdown of Course	Duration	Pre-requisites	Max no. of Candidates	International Accreditation
Introduction to PLC	<ul style="list-style-type: none"> • Introduction to Programmable Logic Controller (PLC) • Components of PLC • Logic Instructions • Ladder Logic Programming • Risk of PLC failure • Number System • Terminology • Wiring of a PLC • Fault Finding Techniques 	3 day	<ul style="list-style-type: none"> • Computer Literate • Inst or Elect Technician • Some PLC Knowledge 	6	Yes
Control Valves & Actuators	<ul style="list-style-type: none"> • Fundamentals of the different types of control valves and actuators • Understand the principles and the different types of actuators • Understand failure modes on valves and actuators • Understand valve positioners and I/P converters • Reason for valve accessories • Understand the basics of tubing and fitting 	5 day	<ul style="list-style-type: none"> • Discipline • Working towards Level 1 or 2 	6	Yes
Tubing and compression fittings	<ul style="list-style-type: none"> • Small Bore Tubing • Tube Benders and Tube Bending • Compression Fittings 	3 Days	Instrumentation and Mechanical	10	Yes
Introduction to Instrumentation for Non Instrument Technicians	<ul style="list-style-type: none"> • Define various components and terminologies used in control systems. • Define various control Action and explain each Action with graph and application. Perform calculation to find out the controller output at given controller settings. • Describe different control methods to achieve better control by interconnecting multiple controllers and/or redirecting measurement and control signals in more complex arrangements. 	5 Days	<ul style="list-style-type: none"> • Tech in any Discipline • Working towards Level 1 or 2 • Engineers requiring basic overview 	8	Yes
Introduction to Pneumatics	<ul style="list-style-type: none"> • Understand the function of pneumatic systems • Be able to prepare for maintenance of pneumatic systems • Be able to perform inspections and maintenance tasks • Be able to reinstate pneumatic systems 	4 Days	<ul style="list-style-type: none"> • Any discipline • Working towards Level 1 or 2 • Engineers requiring basic overview 	4	Yes
Introduction to Hydraulics	<ul style="list-style-type: none"> • Understand the function of hydraulic systems • Be able to prepare for maintenance of hydraulic systems • Be able to perform inspections and maintenance tasks • Be able to reinstate hydraulic systems 	5 Days	<ul style="list-style-type: none"> • Any discipline • Working towards Level 1 or 2 • Engineers requiring basic overview 	4	Yes

Instrumentation



Course Title	Breakdown of Course	Duration	Pre-requisites	Max no. of Candidates	International Accreditation
Introduction to Mechatronics	<ul style="list-style-type: none">• Understand the principles of the 'Total Engineering Approach' to production systems• Be able to apply the principles of typical sensors• Be able to apply the principles of pneumatic, hydraulic, mechanical and electrical actuation systems• Be able to apply the principles of embedded control• Be able to carry out fault finding on pneumatic, hydraulic, mechanical and electrical actuation systems	5 Days	<ul style="list-style-type: none">• Any discipline• Working towards Level 1 or 2• Engineers requiring basic overview	4	Yes

Mechanical



Course Title	Breakdown of Course	Duration	Pre-requisites	Max no. of Candidates	International Accreditation
Alignment	<ul style="list-style-type: none"> Understand the principles of the 'Total Engineering Approach' to production systems Be able to apply the principles of typical sensors Be able to apply the principles of pneumatic, hydraulic, mechanical and electrical actuation systems Be able to apply the principles of embedded control Be able to carry out fault finding on pneumatic, hydraulic, mechanical and electrical actuation systems 	5 Days	Experience as E, I & M Maintenance Technicians	10	Yes
Tubing and compression fittings	<ul style="list-style-type: none"> Small Bore Tubing Tube Benders and Tube Bending Compression Fittings 	3 Days	Instrumentation and Mechanical	10	Yes
Valve greasing	<ul style="list-style-type: none"> Recognize basic bearing types and be able to identify different types of lubrication Demonstrate how to overcome the effects of friction Demonstrate how to avoid corrosion and the correct procedures for identifying and dealing with any corrosion sensitive components 	3 Days	E, I & M Mechanic/ Technician	10	Yes
Hand tools	<ul style="list-style-type: none"> Work safely at all times, complying with health and safety legislation, regulations and guidelines. Accurately plan the fitting activities before they start them. Obtain the correct tools and equipment appropriate for the fitting activities and check that they are in a safe and usable condition Correctly mark out the materials to the required specification, using the appropriate tools and techniques. Accurately measure and check all dimensional and geometrical aspects of the component are to the specification. Successfully deal promptly and effectively with problems within their control, and seek help from the relevant people when they cannot. Leave the work area in a safe and tidy condition on completion of the fitting activities. 	5 Days	E, I & M Mechanic/ Technician	10	Yes
Hydraulics and pneumatics familiarisation	<ul style="list-style-type: none"> Understand the function of pneumatic/ hydraulic systems Be able to prepare for maintenance of pneumatic/ hydraulic systems Be able to perform inspections and maintenance tasks Be able to reinstate pneumatic/ hydraulic systems 	5 Days	E, I & M Mechanic/ Technician	10	Yes

Mechanical



Course Title	Breakdown of Course	Duration	Pre-requisites	Max no. of Candidates	International Accreditation
Mechanical drawings	To include: <ul style="list-style-type: none"> • Introduction to Drawings • Orthographic Drawings • Isometric Drawings • Exploded Drawings • Process Flow (PFD) & Piping & Instrument Diagrams (P&ID) • Layout or Location Drawings • Schematic Diagrams • Cause and Effect Drawings • Hazardous Area Drawings • As Built Drawings 	3 Days	E, I & M Mechanic/ Technician	10	Yes
Valve and prv familiarisation	<ul style="list-style-type: none"> • Identify multi turn valves, their uses and their petrochemical symbols • Identify quarter turn valves, their uses and their petrochemical symbols • Identify non-return valves, their uses and their petrochemical symbols 	5 Days	E, I & M Mechanic/ Technician	10	Yes
Pump (familiarisation)	<ul style="list-style-type: none"> • State the function of pumps and the difference in operation between pump types • Identify principles of operation and state the uses of centrifugal pumps and their major parts • Identify positive displacement pumps and state their uses and principle of operation 	5 Days	E, I & M Mechanic/ Technician	10	Yes
Workshop safety	<ul style="list-style-type: none"> • Understand and comply with HSE and local law regulations while undertaking their duties • Apply safe working practices and procedures at all times • Follow and comply with organisational procedures • Recognise and control hazards- minimising risk • Apply correct manual handling techniques 	3 Days	E, I & M Mechanic/ Technician	10	Yes
Mechanical seals familiarisation, including flanges and gaskets	<ul style="list-style-type: none"> • Correctly identify static sealing devices and state their uses • Correctly identify dynamic sealing devices and state their uses • Correctly state the safety hazards involved with seal maintenance and the limitations of sealing devices 	3 Days	E, I & M Mechanic/ Technician	10	Yes

Process Ops



Course Title	Breakdown of Course	Duration	Pre-requisites	Max no. of Candidates	International Accreditation
Distribution Control System (DCS) Operation	<ul style="list-style-type: none"> Explain the fundamentals and principle of DCS Operations Explain the separation equipment of DCS Operations 	5 Days	Process Operator	10	Yes
Pipeline Pigging Operations	<ul style="list-style-type: none"> Explain the fundamentals and principle of Pipeline Pigging Operations Explain the separation equipment of Pipeline Pigging Operations 	2 Days	Process Field Operator	10	Yes
Fundamentals of Production Equipment	<ul style="list-style-type: none"> Explain the fundamentals and principle of production equipment 	1 Days	None	10	Yes
Introduction to Oil and Gas - Exploration and Production	<ul style="list-style-type: none"> Explain the fundamentals and principle of oil and gas exploration Explain the fundamentals and principles of oil and gas production 	3 Days	None		Yes
Static Equipment	<ul style="list-style-type: none"> Explain the fundamentals and principle of process static equipment Explain the fundamentals and principles of process measuring equipment 	3 Days	Process Field Operator, E, I & M Mechanic/ Technician	10	Yes
Rotating Equipment	<ul style="list-style-type: none"> Explain the fundamentals and principle of process static equipment Explain the fundamentals and principles of process measuring equipment 	3 Days	Process Field Operator, E, I & M Mechanic/ Technician	10	Yes
Process Plant Overview (Refinery)	<ul style="list-style-type: none"> Explain the fundamentals and principle of oil recovery Explain the fundamentals of production and process equipment 	3 Days	None	10	Yes
Utilities	<ul style="list-style-type: none"> Explain the fundamentals principles of the utility systems Explain and operate the training plant utilities systems 	4 Days	Process Field Operator, E, I & M Mechanic/ Technician	10	Yes
Control Loops	<ul style="list-style-type: none"> Explain the fundamentals and principle of Control Loops Explain the separation equipment of Control Loops 	2 Days	Process Operator and Instrumentation Technion	10	Yes
3 Phase Separation System	<ul style="list-style-type: none"> Explain the fundamentals and principle of separation Explain the separation equipment and operation 	2 Days	None	10	Yes
Electrostatic Coalescing (Familiarisation/Principles)	<ul style="list-style-type: none"> Explain the fundamentals and principle of Electrostatic Coalescing Explain the separation equipment of Electrostatic Coalescing 	1 Days	Process Operator, Electrical and Instrumentation Technion	10	Yes
Distillation System	<ul style="list-style-type: none"> Explain the principles of oil distillation Explain and operate the training plant oil distillation systems 	2 Days	None	10	Yes
Gas Sweetening System	<ul style="list-style-type: none"> Explain the principles of gas sweetening Explain and operate the training plant gas sweetening systems 	2 Days	None	10	Yes

Electrical



Course Title	Breakdown of Course	Duration	Pre-requisites	Max no. of Candidates	International Accreditation
CompEx Ex01-Ex04	<ul style="list-style-type: none"> Explain the concept of the fire triangle. Describe the properties of hazardous products Describe hazardous area classifications Describe the main types of electrical and test equipment protection Describe how to select equipment appropriate to zone classification Describe the levels and methods of inspections of electrical equipment Describe the types of portable equipment utilized within hazardous areas 	5 days	Must be a qualified electrotechnical technician Experience of working in Explosive environments	6	Yes
CompEx Ex01-Ex04 R	Refresher course for the CompEx Ex01-Ex04	3 days	As above	6	Yes
PAT Testing	<ul style="list-style-type: none"> What is electricity? The SI units of measurement used when working with electricity. Simple ohms law. Simple power calculations The nature and effects of electric shock. Over current protection (fuses and circuit breakers) Earthing as a means of protection. Use and operation of RCD's How conductor resistance effects disconnection times. Terminology used in relation to PAT testing. 	3 days	Qualified Electrician	10	Yes
Electrical and Electronic Principles	<ul style="list-style-type: none"> Understand the function of electrical and electronic components How to carry out electronic measurements Understand electrical supply systems, protection and earthing Understand functions of electrical machines 	10 Days	None	10	Yes
Low Voltage Electrical Installations	<ul style="list-style-type: none"> Demonstrate a knowledge of the applications and constructional details of a range of cable types and prepare them for termination. Show how to appropriately select a suitable cable for a specific installation. Describe and identify a range of protective devices. Describe a range of earthing systems and explain the need for earthing. Describe and demonstrate the use of a range of cable accessories and termination methods. Describe the construction, installation and applications of common low voltage circuits. Describe and demonstrate the steps required in any basic electrical isolation. Describe and demonstrate the safe use of basic electrical test equipment. Wire and test a range of low voltage electrical circuits. 	10 Days	None	10	Yes

Electrical



Course Title	Breakdown of Course	Duration	Pre-requisites	Max no. of Candidates	International Accreditation
AC /DC Motors and Control Systems	<ul style="list-style-type: none"> Understand single & three phase AC motor theory Recognise the different types of single phase and three phase AC motors Identify the construction of AC and DC motors, and associated component parts Understand DC motor construction operation, and associated components Understand motor operated valve construction, and operation Understand electric submersible pumps construction, operation Be able to program industrial automation systems employing PLCs Be able to explain process control and transducers Understand motor drive systems 	10 Days	None	10	Yes
Electrical Power, Distribution, Transmission & storage	<ul style="list-style-type: none"> Describe the constructional features and operating principles of HV transformers Describe the features of HV transmission systems in terms of voltage and current line and phase values levels throughout the networks Identify and describe types of HV/LV switchgear and associated equipment Describe the construction and properties of insulators, conductors and earthing arrangements Describe HV/LV distribution and transmission networks Identify faults within HV/LV distribution and transmission systems Describe the factors affecting the design and construction of substations and switch rooms Describe a range of different battery types, their applications, maintenance and testing Describe the overall operation and individual parts of a range of common UPS systems 	5 Days	None	10	Yes
Electrical Testing and Protection Principles	<ul style="list-style-type: none"> Know how to carry out electrical measurement using a range of electrical test equipment Describe and identify and range of protective devices. Describe the basic theory behind instrument transformers (CT's and VT's), their applications and safe usage/maintenance/testing. Describe the function and constructional features of a range of protection relays. Explain the basic theory behind a range of commonly used protection schemes. 	5 Days	None	10	Yes
Fault Finding and Maintenance of Electrical equipment	<ul style="list-style-type: none"> Understand the background legislation of maintenance activities Understand the components and features of electrical systems Be able to plan and prepare for the maintenance operation Be able to carry out monitoring, and inspection of maintenance work Be able to apply fault finding techniques establishing "symptom" "fault" "cause" Be able to re-commission the system and restore the work area. 	5 Days	None	10	Yes

English Language



Course Title	Breakdown of Course	Duration	Pre-requisites	Max no. of Candidates	International Accreditation
English in a Technical Context - Regular Programme - Level 2	<ul style="list-style-type: none"> • Demonstrate ability to write grammatically accurate simple sentences with minor errors. • Perform simple work-related writing tasks such as basic form completion. • Comprehend the underlying meaning of simple short readings. • Use reading strategies to identify gist and numerical information in short readings. • Develop fluency in speaking simple utterances and sentences intelligible to sympathetic listeners. • Comprehend underlying meaning in simple utterances delivered at a normal rate of speech. • Use listening strategies to identify gist and numerical information in short listening texts. • Understand and respond to basic verbal and written instructions. • Develop an adequate active general vocabulary of at least 400 words in addition to a basic vocabulary of simple technical terms and phrases. 	420 hours	CEFR A1 Higher	20	No
English in a Technical Context - Regular Programme - Level 3	<ul style="list-style-type: none"> • Demonstrate ability to write grammatically accurate extended sentences using conjunctions / simple cohesive devices with minor errors. • Perform simple work-related writing tasks such as form completion and short reports. • Comprehend the underlying meaning of relatively complex short readings. • Use reading strategies to identify gist and/or specific information in short readings. • Develop further fluency in speaking more complex simple sentences intelligible to sympathetic listeners. • Comprehend underlying meaning in simple monologues and dialogues delivered at a normal rate of speech. • Use listening strategies to identify gist and/or specific information in short listening texts. • Understand and respond to simple verbal and written instructions. • Develop an adequate active general vocabulary of at least 800 words in addition to a basic vocabulary of job-related semi-technical and technical terms and phrases. 	420 hours	CEFR A2 Lower	20	No
English in a Technical Context - Regular Programme - Level 4	<ul style="list-style-type: none"> • Demonstrate ability to write grammatically accurate multiple sentence responses using conjunctions and simple cohesive devices with minor errors. • Perform simple technical-training related writing tasks appropriate as responses for PEO portfolio prompts. • Comprehend the underlying meaning of relatively complex multiple paragraph readings. • Use reading strategies to identify gist and /or specific information in multiple paragraph readings. • Develop further fluency in speaking more complex simple sentences by participating effectively in job-related oral interactions and by communicating effectively with colleagues and trainers within the technical workplace. • Comprehend underlying meaning in extended monologues and dialogues delivered at a normal rate of speech. • Use listening strategies to identify gist and/or specific information in extended listening texts. • Understand and respond to verbal and written instructions. • Develop an adequate active general vocabulary of at least 1200 words in addition to an extended vocabulary of job-related semi-technical and technical terms and phrases. 	420 hours	CEFR A2 Higher	20	No

English Language



Course Title	Breakdown of Course	Duration	Pre-requisites	Max no. of Candidates	International Accreditation
English in a Technical Context - Regular Programme - Level 5	<ul style="list-style-type: none"> • Demonstrate ability to write grammatically accurate paragraphs with minor errors. • Perform simple work-related writing tasks such as basic email writing and reports on projects, damage, faults and incidents within the workplace. • Comprehend the underlying meaning of level appropriate multiple paragraph readings. • Develop further fluency and accuracy in speaking more complex sentences by participating effectively in job-related oral interactions and by communicating effectively with colleagues and trainers within the technical workplace. • Comprehend underlying meaning in level appropriate monologues and dialogues delivered at a normal rate of speech. • Use listening strategies to identify gist and/or specific information in extended listening texts. • Understand and respond to verbal and written instructions of a technical nature. • Develop an adequate active general vocabulary of at least 1600 words in addition to an extended vocabulary of job-related semi-technical terms and phrases and specific technical terms and phrases relating to the oil, gas and petrochemical industries. 	420 hours	CEFR B1 Lower	20	No
English in a Technical Context - Regular Programme - Level 6	<ul style="list-style-type: none"> • Demonstrate ability to write multiple grammatically accurate paragraphs using appropriate cohesive devices with minor errors. • Perform relatively complex work-related writing tasks such as email writing for multiple purposes and detailed reports on projects, damage, faults and incidents within the workplace. • Comprehend the underlying meaning of level appropriate multiple paragraph readings. • Develop further fluency and accuracy in speaking more complex sentences by participating effectively in job-related oral interactions and by communicating effectively with colleagues and trainers within the technical workplace, confirming and verifying as necessary to check information. • Comprehend underlying meaning in level appropriate monologues and dialogues delivered at a normal rate of speech.. • Understand and respond to verbal and written instructions of a technical nature. • Develop an adequate active general vocabulary of at least 2000 words in addition to an extended vocabulary of job-related semi-technical terms and phrases and specific technical terms and phrases relating to the oil, gas and petrochemical industries (using formal and informal technical expressions appropriately). 	420 hours	CEFR B1 Higher	20	No

English Language



Course Title	Breakdown of Course	Duration	Pre-requisites	Max no. of Candidates	International Accreditation
English in a Technical Context - Regular Programme - Level 7	<ul style="list-style-type: none"> Demonstrate ability to complete multiple paragraph writing tasks (e.g. detailed report writing) using multiple grammatically accurate paragraphs and appropriate cohesive devices with very few errors. Perform complex work-related writing tasks such as extended email writing for multiple purposes and the ability to write complex and detailed reports on projects, damage, faults and incidents within the workplace. Comprehend the underlying meaning of level appropriate multiple paragraph readings. Develop further fluency and accuracy in speaking and negotiating by participating fully and effectively in job-related oral interactions and by communicating effectively with colleagues and trainers within the technical workplace, confirming and verifying as necessary to check information. Comprehend underlying meaning in level appropriate monologues and dialogues delivered at a normal rate of speech. Understand and respond to verbal and written instructions of a technical nature. Develop an adequate active general vocabulary of at least 2400 words in addition to an extended vocabulary of job-related semi-technical terms and phrases and specific technical terms and phrases relating to the oil, gas and petrochemical industries (using formal and informal technical expressions appropriately). 	420 hours	CEFR B2 Lower	20	No
English in a Technical Context - Accelerated Programme - Level 2	As per English in a Technical Context Level 2	300 hours	CEFR A1 Higher	20	No
English in a Technical Context - Accelerated Programme - Level 3	As per English in a Technical Context Level 3	300 hours	CEFR A2 Lower	20	No
English in a Technical Context - Accelerated Programme - Level 4	As per English in a Technical Context Level 4	300 hours	CEFR A2 Higher	20	No
English in a Technical Context - Accelerated Programme - Level 5	As per English in a Technical Context Level 5	300 hours	CEFR B1 Lower	20	No
English in a Technical Context - Accelerated Programme - Level 6	As per English in a Technical Context Level 6	300 hours	CEFR B1 Higher	20	No
English in a Technical Context - Accelerated Programme - Level 7	As per English in a Technical Context Level 7	300 hours	CEFR B2 Lower	20	No



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