KUWAIT RECRUITMENT BUREAU

TRAINING COURSES PORTFOLIO

CATALOG OVERVIEW

1. Fundamentals of Petroleum Engineering
2. Steam Turbines Maintenance & Operation
3. Fundamentals in Centrifugal pumps
4. Centrifugal Compressors Maintenance & Operation
5. Rotating Machinery Vibration Analysis
6. Mechanical Seals
7. Dry Gas Seals
8. Heat Exchangers
9. Refinery Market Survey
10. Piping & Instrumentation Diagram
11. Towers, Vessels & Reactors
12. Refinery Shutdown Handling
13. Oil & Gas Pipeline Maintenance
14. Cooling Towers
15. Maintain & Test Control Valves
16. Reservoir Engineering
17. Well Logging
18. Well Testing
19. Drilling Engineering
20. Phase Behavior (PVT)
21. Data Science & Machine Learning using Python

FUNDAMENTALS OF PETROLEUM ENGINEERING

Fundamentals of petroleum engineering covers the main engineering aspects and core foundation knowledge processes involved in the oil & gas industry. Participants will be provided with the basics of petroleum engineering knowledge and disciplines as well as the global distribution of oil and gas, petroleum geology, oil exploration methods, basic reservoir and production engineering, reservoir formation evaluation techniques, and different oil recovery methods.

OUR LEARNING PROGRAM

- Fundamentals in Petroleum Engineering Knowledge
- Exploration & Production Methods
- Reservoir Basics

STEAM TURBINES MAINTENANCE & OPERATION

In this course will cover the operating principles of steam turbines. Upon completion of this course, participants will have gained a thorough understanding of the various centrifugal steam turbine configurations available. Additionally, the course will address mechanical design features, sizing and application criteria and operations of Turbines. Additionally, participants will gain knowledge on maintainability, reliability, vulnerability and troubleshooting issues. Delivery methods will be through interactive lectures, group discussion and case study analysis.

OUR LEARNING PROGRAM

- Description of types of Steam Turbines
- Operating principles - Maintenance
- Troubleshooting

FUNDAMENTALS IN CENTRIFUGAL PUMPS

This course covers centrifugal pump operation principles, maintenance procedures, and troubleshooting methods. Participants will learn about fluid dynamics, pump components (impeller, casing, bearings), and types of pumps (single-stage, multi-stage). It includes daily maintenance practices, seal and bearing replacement procedures, and identification of common issues like cavitation, vibration, and leaks. Safety measures during operation and maintenance will also be discussed. Delivery methods include interactive lectures, group discussions, and case study analysis.

OUR LEARNING PROGRAM

- Principles of Centrifugal Pump Technology
- Operation & Maintenance of Cent. Pumps
- Troubleshooting of Centrifugal Pumps

CENTRIFUGAL COMPRESSORS MAINTENANCE AND OPERATION

This Course provides participants the knowledge of basic principles of compressor operation & maintenance. Learning maintenance best practices to ensure performance. Identify common issues and troubleshooting techniques. Types of compressors: single stage & multi-stage compressors. Basic principles of gas compression. Learning operating principles steam turbine driven & Motor driven. Components of compressors: rotors, labyrinths, dry gas seals, and control systems. Delivery methods will be through interactive lectures, group discussion and case study analysis.

OUR LEARNING PROGRAM

- Types of Centrifugal Compressors
- Operation & Maintenance of Centrifugal Compressors.
- Troubleshooting

ROTATING MACHINERY VIBRATION ANALYSIS

This course equips participants with the skills to perform vibration analysis on rotating machinery for effective diagnosis and mitigation of equipment issues. Topics include fundamentals of vibration, types of rotating equipment, vibration measurement techniques, and common issues like imbalance, misalignment, and bearing faults. Participants will also learn about developing vibration monitoring programs and best practices for data collection and trend analysis. Delivery methods include interactive lectures, group discussions, and case study analysis.

OUR LEARNING PROGRAM

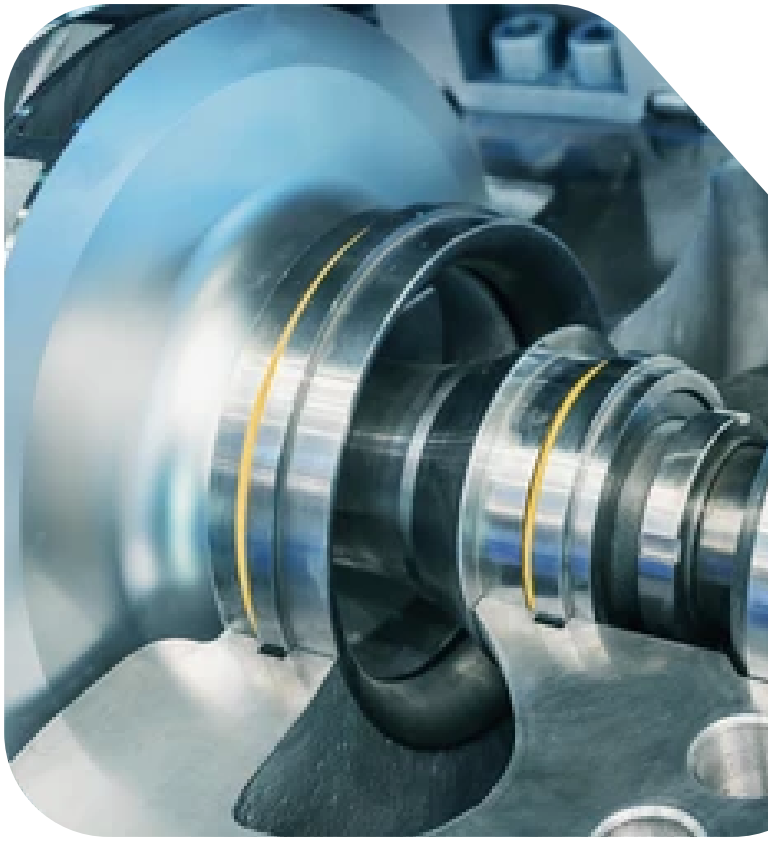
- Fundamentals of Asset Condition Monitoring
- Vibration Analysis Principles
- Condition-Based Maintenance Strategies

MECHANICAL SEALS

This course on mechanical seals offers a comprehensive overview of their definition, purpose, and significance in industries such as oil and gas, chemicals, and water treatment. Participants will learn about various types of mechanical seals, including contact and non-contact seals, single and double seals, and cartridge seals. Key components, operating principles, and best practices for installation and maintenance will be covered, along with troubleshooting common issues like wear and leakage. The course will also address failure modes through case studies, performance testing techniques, safety protocols, and environmental considerations. Additionally, it will highlight future trends and innovations in mechanical seals. Delivery methods include interactive lectures, group discussions, and case study analysis.

OUR LEARNING PROGRAM

- Definition and purpose of mechanical seals
- Importance in various industries (oil & gas, chemical).
- Troubleshooting common issues.



DRY GAS SEALS

This course on dry gas seals provides an overview of their definition, purpose, and advantages over traditional seals in industries like oil and gas and petrochemicals. Participants will learn about various types of dry gas seals, including single and double configurations, as well as balanced and unbalanced designs. Key components such as seal faces, materials, and installation considerations will be covered, along with operating principles and the mechanisms of gas film generation. Best practices for installation, routine maintenance, and troubleshooting issues like leakage will be discussed, alongside analyses of common failure modes and preventive measures. The course will also address performance testing techniques, safety protocols, and environmental impacts related to gas emissions. Future trends in dry gas seals, including innovations and emerging technologies, will be explored. Delivery methods will include interactive lectures, group discussions, and case study analysis.

OUR LEARNING PROGRAM

- Definition and purpose of dry gas seals
- Applications in various industries (oil & gas, petrochemical, etc.)
- Mechanisms of gas film generation.
- Troubleshooting common issues.

HEAT EXCHANGERS

This course provides a comprehensive overview of the fundamentals, design and applications of heat exchangers.

Heat exchangers are widely used in various industries, including power generations, chemical processing, HVAC systems. Participants will gain a thorough understanding of the principles governing heat transfer, the different types of heat exchangers configurations and the design methodologies used to optimize their performance.

OUR LEARNING PROGRAM

- Basic Principles of Heat Transfer
- Classify & Compare Type of Heat Exchangers
- Heat Exchangers Applications & Case Studies

REFINERY MARKET SURVEY

This course provides participants with a comprehensive understanding of market survey procedures specific to the refinery sector, enabling them to gather and analyse data effectively for strategic decision making. Introduction to Market Surveys Understanding the purpose and importance of market surveys in the refinery industry Overview of different types of market surveys. Developing effective survey objectives and questions. Reporting and Presentation. Best practices for presenting survey findings. Creating reports that facilitate decision making. Case Studies and Practical Applications. Analysis of real-world market survey examples in the refinery sector. Lessons learned from successful market survey implementations. Delivery methods will be through interactive lectures, group discussion and case study analysis. Practical exercises in surveys and data analysis.

OUR LEARNING PROGRAM

- Definition and importance of market surveys in the refinery sector.
- Objectives of conducting market surv
- Case studies of different survey types the refinery industry.

PIPING AND INSTRUMENTATION DIAGRAM

this course aims to provide participants how to Read, Interpret and understand P&ID like Professional Engineer. Understand the drawing's components. What are P&ID, PFD, and BFD, and Why is it used. What information do these drawings provide. Learn P&ID and PFD Symbols. Read Tank farm and Process Plant P&ID and PFD. Read P&ID for Column, Heat Exchanger, Pump, Tank, etc.

OUR LEARNING PROGRAM

- How to read P&IDs accurately
- Understanding flow paths and process flow
- Identifying control loops and instrumentation

TOWERS, VESSELS & REACTORS

This course provides a comprehensive overview of the fundamentals, design and applications of Towers, Vessels & Reactors. These are used in various industries, including refining business and chemical processing. Participants will gain a thorough understanding of the Principles of Towers, Vessels & Reactors configurations and the design methodologies used to optimize their performance.

OUR LEARNING PROGRAM

- Basic Principles of Towers, Vessels & Reactors
- Classify and compare different types
- Towers, vessels & Reactors Applications & Case Studies

REFINERY SHUTDOWN HANDLING

This course provides a complete overview of Refinery Unit shutdown phases, from Preparation phase, pre-shutdown activities, shutdown execution, post-maintenance activities and post shutdown review. Through lectures, open discussion about shutdown challenges, lesson learnt and risk assessment.

OUR LEARNING PROGRAM

- Definition and types of shutdowns (planned vs. unplanned)
- Resource allocation (personnel, equipment, materials)
- Risk assessment and management strategies.

OIL AND GAS PIPELINE MAINTENANCE

this course will provide understanding of the principles and practices involved in the maintenance and troubleshooting of pipeline. Overview of types, and operational principles. Cleaning techniques and preventive maintenance practices. Identifying common issues including leaks and blockages. open discussion about case studies and how to maintain before and during shutdowns.

OUR LEARNING PROGRAM

- Key components (pipes, valves, fittings, pumps).
- Materials used in pipeline construction (steel, plastic, composites).
- Importance of compliance and inspections.

COOLING TOWERS

This course provides overview of the fundamentals, design and applications of Cooling Towers. Participants will gain a thorough understanding of the principles Cooling Towers, the different types, special tools to be used for maintenance activities, how to review heaters manuals, data sheets and the design methodologies used to optimize their performance, through interactive powerpoint lectrues, Cooling Towers manuals and data sheets. Open discussion about case studies on Cooling Towers issues and how to maintain before and during unit shutdowns.

OUR LEARNING PROGRAM

- Routine maintenance tasks and schedules.
- Common issues (scaling, fouling, corrosion) and solutions.
- Strategies for optimizing cooling tower operation.

MAINTAIN & TEST CONTROL VALVES

This course covers the fundamental concepts of valve design, selection, sizing, installation, operation, and maintenance. We offer hands-on training sessions with practical exercises that allow you to gain valuable experience in working with control valves. Our trainer is an experienced professional in the field of valve technology and control systems, and will guide you through the latest industry practices and standards.

OUR LEARNING PROGRAM

- Fundamentals of Valve Design, Operation & Maintenance
- Troubleshooting Control Valves
- Optimize Performance

RESERVOIR ENGINEERING

This course provides a comprehensive understanding of reservoir engineering principles, focusing on the analysis, modeling, and management of oil and gas reservoirs. It covers the types, properties, and behavior of reservoirs, as well as fluid properties and phase behavior in porous media. Participants will learn about reservoir modeling and simulation techniques, including building static and dynamic models using software tools. The course also addresses performance analysis through decline curve analysis and production forecasting, along with changes in reservoir pressure and saturation. An overview of Enhanced Oil Recovery (EOR) projects, case studies, and practical applications will be included, as well as discussions on challenges and solutions in reservoir engineering, along with lessons learned from industry practices.

OUR LEARNING PROGRAM

- Fundamentals in Reservoir Engineering
- Analyze reservoir behavior and performance
- Learn techniques for reservoir characterization and evaluation.

WELL LOGGING

This course provides participants with a thorough understanding of well logging techniques, tools, and applications in the oil and gas industry, enabling effective analysis of subsurface formations. It covers the importance of well logging for reservoir characterization, types of well logs, and their applications. Participants will learn about common logging tools (gamma ray, resistivity, sonic), their operation and calibration, as well as data acquisition and interpretation techniques. The course includes formation evaluation to assess hydrocarbon potential, porosity, permeability, and saturation. Advanced logging methods, case studies, and health, safety, and environmental considerations will also be discussed. Delivery methods include interactive lectures, group discussions, and case study analysis.

OUR LEARNING PROGRAM

- Understand the fundamentals of well logging and its importance in petroleum Industry.
- Analyze reservoir behavior and performance
- Learn techniques for reservoir characterization and evaluation.

WELL TESTING

This course is designed to provide participants with a thorough understanding of well testing principles, methods, and applications in the oil and gas industry, focusing on reservoir evaluation and production optimization. Importance of well testing in oil and gas operations, Well Testing Techniques (Continuous vs. intermittent testing). Equipment and Setup. Data Acquisition (Techniques for collecting accurate test data). Data Analysis and Interpretation. Pressure Transient Testing (Fundamentals of pressure transient analysis (PTA)). Production Testing (Measuring production rates and fluid properties). Lessons learned and best practices from industry application. Delivery methods will be through interactive lectures, group discussion and case study analysis.

OUR LEARNING PROGRAM

- Definition and purpose of oil well testing.
- Importance in reservoir evaluation and management.
- Troubleshooting common issues during testing.

DRILLING ENGINEERING

This course equips participants with essential knowledge and skills for effective drilling engineering practices in the oil and gas industry. It covers drilling rig components, drilling fluids, well planning and design, and drilling operations. Key topics include well control principles, blowout prevention, and methods for optimizing drilling efficiency and reducing costs through technology and data analytics. The course also addresses safety practices, environmental considerations, and regulatory compliance. Delivery methods include interactive lectures, group discussions, and case study analysis

OUR LEARNING PROGRAM

- Understand the principles and practices of drilling engineering.
- Learn the design and implementation of drilling programs.
- Analyze drilling performance and optimize drilling operations.

PHASE BEHAVIOR (PVT)

This course provides a comprehensive understanding of phase behaviour and pressure-volume-temperature (PVT) relationships in petroleum systems, essential for reservoir evaluation and fluid characterization. Participants will learn about phase behaviour in hydrocarbon systems, the measurement and significance of PVT properties (density, viscosity, swelling), and techniques for conducting PVT experiments. The course covers the construction and interpretation of phase diagrams, fluid characterization techniques, and the impact of fluid properties on reservoir performance. Additionally, it introduces modeling phase behaviour using equations of state (EOS) and analyzing PVT data for reservoir evaluation, supplemented by case studies. Safety practices in PVT lab experiments and environmental implications of fluid handling will also be discussed. Delivery methods include interactive lectures, group discussions, and case study analysis

OUR LEARNING PROGRAM

- Understand the principles of phase behavior in hydrocarbon systems.
- Analyse pressure-volume-temperature (PVT) relationships for reservoir fluids.
- Learn about the design and implementation of various well tests.

DATA SCIENCE & MACHINE LEARNING USING PYTHON

This course introduces the data science lifecycle and Python programming, highlighting key libraries such as NumPy, Pandas, Matplotlib, and Seaborn. Participants will learn data preprocessing techniques, including cleaning, handling missing values and outliers, and data transformation. The course covers exploratory data analysis (EDA) methods for visualizing and summarizing data insights. An overview of machine learning concepts and types (supervised, unsupervised, reinforcement) will be provided, including supervised learning algorithms (linear regression, decision trees) and unsupervised clustering techniques (K-means, hierarchical clustering). Case studies and practical applications will be included. Delivery methods consist of interactive lectures, group discussions, and case study analysis.

OUR LEARNING PROGRAM

- Understand the fundamentals of data science and machine learning concepts.
- Gain proficiency in using Python for data analysis and machine learning.
- Apply machine learning algorithms to solve real-world problems.