

# **OILENNIUM** Technical and HSSEQ Library Courses



### Introducing Oilennium

As part of the Petrofac group, Oilennium delivers computer based training products of the highest standard, which are designed to support the development of a competent workforce.

We have an extensive library of eLearning courses and a strong track record of creating high quality custom made training materials. This experience and expertise creates efficient and cost effective training solutions to address the specific competence gaps within your team.

Through the use of adult learning techniques, high quality graphics, animations and interactions, we create an effective and engaging eLearning experience for the user. This ensures that knowledge and skills are acquired as quickly and easily as possible, and are retained to have a lasting impact.



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### **Oilennium's Strengths**

We combine these skills and experience with your company knowledge to produce training that is specifically designed to work for you.



#### RESPONSIVE

We work to robust project management processes that ensure efficient course development. Our online project management tool, Basecamp, guarantees that our clients are continually updated on progress and involved throughout the project.



#### **HIGH QUALITY**

Good training is all about helping the user to acquire and retain the knowledge and skills they need. In order to achieve this, training materials must be both accurate and engaging. Our CBTs engage the user and make a real impact on employee competence.



#### FLEXIBLE

Oil and Gas is a dynamic industry; with complex safety, technical and legislative demands. In this ever-changing context, there's no 'one size fits all' training solution that matches the needs of every company.



#### SKILLED

Our in-house team of highly skilled instructional designers, scriptwriters, technical reviewers and Subject Matter Experts ensure we consistently deliver training materials of the highest quality. All our employees are subjected to a robust training programme to ensure they meet our exacting standards prior to working on client projects.

### Library Courses

Each course uses animations, graphics and interactions to create a training experience that is both visually engaging and educationally rewarding.

Frequent Knowledge Checks and Final Assessments will provide your personnel with feedback on their performance as they work through each course; as well as providing you with the chance to record and track their progress via a Learning Management System (LMS).

We recognise that you may have unique training requirements that cannot be fulfilled by a 'one size fits all' solution. While our existing library already offers a wide range of high quality eLearning courses, we also pride ourselves on offering a flexible and responsive approach that will allow us to meet your specific needs.

We offer a variety of options for translating courses for non-English speaking users. This includes voice overs recorded in the local dialect, on screen graphics and text translations, subtitles, and other options to suit your needs.

> Oilennium's extensive library contains over 200 engaging, effective eLearning courses.

### Library Courses

All of our library courses can be rebranded to reflect your corporate identity. We can also add your specific content to our existing courses, to make sure that your personnel gain the knowledge and skills they need.





### Advantage of Library Modules

Engaging, effective eLearning created by our in-house experts

Users can be enrolled and begin training immediately

Wide range of over 200 courses currently available

More courses being added all the time

Courses can be rebranded to match your corporate identity

Additional content can be added to cover your specific material

Technically accurate, industry relevant courses designed by Oil and Gas experts

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Analysis of accidents caused by wheel breakages revealed that most could have been avoided by an understanding of the risks and the required safety precautions.



### Abrasive Wheels and Grinding Operations Modules 1-2



#### COURSE DESCRIPTION

The risk of breakage is inherent in every abrasive wheel. Analysis of accidents caused by wheel breakages revealed that most could have been avoided by an understanding of the risks and the required safety precautions.

If the number of breakages is to be kept low, care must be exercised by abrasive wheel and machine makers in the design, manufacture and testing of their equipment, and this must be coupled with the adoption of safety measures by the users.

The objective of this course is to instill awareness of the hazards and safe use of abrasive wheels. We will look at the equipment and the various types of abrasive wheel available and discuss correct wheel selection, mounting, storage and handling requirements.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Hazards in the use of abrasive wheels
- Components of a grinding wheel
- Types of wheel, shapes and speeds
- Truing and dressing a wheel
- Types of bonding agent
- Storage and handling of wheels and other equipment
- The functions of guards
- Wheel selection and mounting
- PPE used in abrasive wheel activities

Approx. Duration: 60min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



With asbestos being the biggest single cause of work-related deaths, with around 4,000 reported each year in the UK alone, knowing what steps to take if you come across asbestos is vitally important.

### **Asbestos Awareness**



#### COURSE DESCRIPTION

With asbestos being the biggest single cause of workrelated deaths, with around 4,000 reported each year in the UK alone, knowing what steps to take if you come across asbestos is vitally important.

Because it is often mixed with other materials, sometimes it can be difficult to know if you're working with asbestos or not. However, if you work in any building constructed before the year 2000, it is likely that it will contain asbestos in one form or another.

In this course you will learn how to identify asbestos, the dangers it can present and the options you may have if you come across asbestos in your workplace.

### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The history of asbestos, and why it was used
- The identification of asbestos, in its various forms
- The dangers that asbestos can present
- The regulations that govern asbestos handling and disposal
- The options you may have if you discover asbestos

Approx. Duration: 45min

Knowledge Check: Yes Exam: Yes



Offshore Oil and Gas operations involve the use of energy sources to provide the means for the exploration, development and production of oil and gas.

### Introduction to Atmospheric Emissions



#### COURSE DESCRIPTION

Offshore Oil and Gas operations involve the use of energy sources to provide the means for the exploration, development and production of oil and gas.

The energy needed to operate many offshore installations can be measured in many Megawatts (MW) of power. Fossil fuels, typically natural gas and diesel or fuel oils, are used as the energy source and in addition, some of the produced gases and vapours are either combusted or lost to the atmosphere, as caused by process plant operational conditions and limitations.

The resulting atmospheric emissions are significant, therefore many regulations and initiatives have been put in place to reduce these emissions and the impact they have on the environment.



#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Consider the environmental impacts of atmospheric emissions
- State the effects that CFC and similar refrigerants have on the atmosphere
- List some of the elements that are released to atmosphere as a result of operations offshore
- Recognise the regulatory controls and legislation that applies to atmospheric emissions
- Define some of the measures that can be taken to reduce emissions
- Understand the permitting and reporting requirements for atmospheric emissions

Approx. Duration: **25min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



There are many roles involved in an audit, and each person needs to understand their role and responsibilities within the process, as well as understanding the roles and responsibilities of others.

### **Audits and Inspections**



#### COURSE DESCRIPTION

There are many roles involved in an audit, and each person needs to understand their role and responsibilities within the process, as well as understanding the roles and responsibilities of others.

This course is designed to give you the knowledge and understanding to perform internal audits on your management system and inspections of your workplace. It will look at the audit process, explain why conducting audits is important, describe the workplace inspection process, and discuss the benefits of workplace inspections.

Questions will be asked throughout the presentation to test your knowledge and retention of the material provided.

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#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe the key terms associated with audits
- Describe the roles and responsibilites of an Internal Auditor
- Plan, conduct and report an internal audit for your management system
- Describe the benefits and importance of conducting company audits
- Plan, conduct and report a workplace inspection and communicate results to personnel and management
- Explain how a workplace inspection benefits the company and the employees

Approx. Duration: **45min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



You will be introduced to the properties and hazards of gas, the regulations and procedures designed to keep you safe, types of gas detection and respiratory protection equipment and it's safe use.

### Authorised Gas Tester All Levels



#### COURSE DESCRIPTION

This 'Authorised Gas Tester' complete suite of modules is designed to provide personnel with an awareness of the knowledge and skills required in order to safely test for oxygen levels and flammable or toxic atmospheres.

You will be introduced to the properties and hazards of gas, the regulations and procedures designed to keep you safe, types of gas detection and respiratory protection equipment and it's safe use. You will also be shown the importance of accurately interpreting and documenting the results of a gas test.

This complete suite will also guide you through the additional requirements and hazards when working in and around confined spaces, testing for flammable gas in preparation for hot work and is required for personnel involved in safety observer and fire watch duties.

Please note: Depending on the level of Authorised Gas Tester Training you are taking, you will see a different combination of modules.



#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Module 1: Understand Gases
- Module 2: Regulations and Procedures
- Module 3: Gas Detectors
- Module 4: Personal Protective Equipment
- Module 5a: Gas Testing for Confined Spaces
- Module 5b: Gas Testing for Hot Work
- Module 5c: Gas Testing for Hot Work with Fire Watch
- Module 6: Interpreting and Documenting Results

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
210min	Yes	Yes	ENG	6



You will be introduced to the properties and hazards of gas, the regulations and procedures designed to keep you safe, types of gas detection and respiratory protection equipment and it's safe use.

### Authorised Gas Tester Levels 1



#### COURSE DESCRIPTION

This 'Authorised Gas Tester' Level 1 suite of modules is designed to provide personnel with an awareness of the knowledge and skills required in order to safely test for oxygen levels and flammable or toxic atmospheres.

You will be introduced to the properties and hazards of gas, the regulations and procedures designed to keep you safe, types of gas detection and respiratory protection equipment and it's safe use. You will also be shown the importance of accurately interpreting and documenting the results of a gas test.

This level 1 training will also guide you through the additional requirements and hazards when working in and around confined spaces.

Please note: Depending on the level of Authorised Gas Tester Training you are taking, you will see a different combination of modules.



#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Module 1: Understand Gases
- Module 2: Regulations and Procedures
- Module 3: Gas Detectors
- Module 4: Personal Protective Equipment
- Module 5a: Gas Testing for Confined Spaces
- Module 5b: Gas Testing for Hot Work
- Module 5c: Gas Testing for Hot Work with Fire Watch
- Module 6: Interpreting and Documenting Results

Approx.	Duration:
180	Dmin

Knowledge Check: Yes Exam: Yes



You will be introduced to the properties and hazards of gas, the regulations and procedures designed to keep you safe, types of gas detection and respiratory protection equipment and it's safe use.

### Authorised Gas Tester Level 2



#### COURSE DESCRIPTION

This 'Authorised Gas Tester' Level 2 suite of modules is JOIFF accredited and is designed to provide personnel with an awareness of the knowledge and skills required in order to safely test for oxygen levels and flammable or toxic atmospheres.

You will be introduced to the properties and hazards of gas, the regulations and procedures designed to keep you safe, types of gas detection and respiratory protection equipment and it's safe use. You will also be shown the importance of accurately interpreting and documenting the results of a gas test.

This level 2 training will also guide you through the additional requirements and hazards when testing for flammable gas in preparation for hot work.

Please note: Depending on the level of Authorised Gas Tester Training you are taking, you will see a different combination of modules.



#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Module 1: Understand Gases
- Module 2: Regulations and Procedures
- Module 3: Gas Detectors
- Module 4: Personal Protective Equipment
- Module 5a: Gas Testing for Confined Spaces
- Module 5b: Gas Testing for Hot Work
- Module 5c: Gas Testing for Hot Work with Fire Watch
- Module 6: Interpreting and Documenting Results

Approx.	Duration:
180	Dmin

Knowledge Check: Yes Exam: Yes



You will be introduced to the properties and hazards of gas, the regulations and procedures designed to keep you safe, types of gas detection and respiratory protection equipment and it's safe use.

### Authorised Gas Tester Level 3



#### COURSE DESCRIPTION

This 'Authorised Gas Tester' Level 3 suite of modules is designed to provide personnel with an awareness of the knowledge and skills required in order to safely test for oxygen levels and flammable or toxic atmospheres.

You will be introduced to the properties and hazards of gas, the regulations and procedures designed to keep you safe, types of gas detection and respiratory protection equipment and it's safe use. You will also be shown the importance of accurately interpreting and documenting the results of a gas test.

This level 3 training will also guide you through the additional requirements and hazards when testing for flammable gas in preparation for hot work and is required for personnel involved in safety observer and fire watch duties.

Please note: Depending on the level of Authorised Gas Tester Training you are taking, you will see a different combination of modules.



#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Module 1: Understand Gases
- Module 2: Regulations and Procedures
- Module 3: Gas Detectors
- Module 4: Personal Protective Equipment
- Module 5a: Gas Testing for Confined Spaces
- Module 5b: Gas Testing for Hot Work
- Module 5c: Gas Testing for Hot Work with Fire Watch
- Module 6: Interpreting and Documenting Results

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
180min	Yes	Yes	ENG	6



Lifting operations are performed almost continually on an offshore installation; cranes are used to transfer cargo between supply vessels and the installation as well as providing assistance with many of the operations that are performed on a routine, as well as a non-routine basis.

### Introduction to Banksman and Slinger Roles in Lifting Operations



#### COURSE DESCRIPTION

Lifting operations are performed almost continually on an offshore installation; cranes are used to transfer cargo between supply vessels and the installation as well as providing assistance with many of the operations that are performed on a routine, as well as a non-routine basis.

Various equipment and techniques are also used to lift and even pull loads into places, sometimes where crane access is limited or is even impossible.

This suite will introduce you to the regulations, safety requirements and the roles of the banksman and slinger in lifting operations.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Regulations and statistics
- Hazards and the importance of planning
- Lifting roles and equipment
- Classification of lifts
- Preparing for the lift
- Carrying out the lift
- Restoring the work area
- The Banksman's role
- Difficulties during lifting and moving operations
- Communications
- Slings and slinging practices

Approx. Duration: **150min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



When discussing the integrity of an oil well, the main purpose of barrier management is to establish and maintain barriers that reduce risk.



### Introduction to Barrier Management and Well Integrity



#### COURSE DESCRIPTION

When discussing the integrity of an oil well, the main purpose of barrier management is to establish and maintain barriers that reduce risk.

In this course we will look at barrier management and well integrity, including all relevant processes, systems, solutions and measures that are put in place throughout the initial implementation, producing life and subsequent abandonment of a well.

We will also explain well control and the associated risks involved with maintaining well integrity.



#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe the role of barrier management in maintaining well integrity
- Define the key terms associated with barrier management
- Describe the well barriers and 'envelopes' associated with primary and secondary well control
- Explain how human behaviour and non-technical barriers can influence well integrity
- Describe the role that risk assessment plays in maintaining well integrity

Approx. Duration: 60min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Mathematics is an essential tool used in virtually every aspect of life, from working out the cost of your shopping, to engineering calculations that build bridges, skyscrapers and ships.

### Basic Maths Module 1



#### COURSE DESCRIPTION

Mathematics is an essential tool used in virtually every aspect of life, from working out the cost of your shopping, to engineering calculations that build bridges, skyscrapers and ships.

In this module, you will learn about mathematical symbols and their use. We will then look at different international units of measurement and standard prefixes. Lastly, we will look at how to round numbers.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Mathematical symbols and notations
- How to use prefixes
- International units of measurement
- Rounding up and rounding down"

Approx. Duration:Knowledge Check:Exam:Languages:Modules:40minYesYesENG3



You will learn how to calculate the areas of various shapes and, by adding another dimension, how to calculate the volumes of several objects.



### **Basic Maths** Module 2



#### COURSE DESCRIPTION

In module one, you learnt about mathematical symbols and their notation and prefixes. We also looked at different international units of measurement and learnt how to round numbers.

In module two, you will continue this journey, firstly learning about power numbers and scientific notation. You will learn how to calculate the areas of various shapes and, by adding another dimension, how to calculate the volumes of several objects.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Power numbers and scientific notation
- How to calculate areas
- How to calculate the volumes
   of various objects





#### This module builds on the knowledge previously learnt in modules one and two, and applies it to an oilfield setting.



### **Basic Maths** Module 3



#### COURSE DESCRIPTION

This module builds on the knowledge previously learnt in modules one and two, and applies it to an oilfield setting.

First we look at capacities in the oil and gas industry, then the different types of pressure that can be encountered in downhole situations, and finally some of the different forces that may be applied, including string weights and buoyancy forces.

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### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Capacities in the oil and gas industry
- How to calculate annular capacities
- The different types of pressure calculations
- Calculating string weights and buoyancy forces





There are many types in common use, some are known as primary cells and are not generally considered rechargeable and so are single use and disposable.

### **Introduction to Batteries**



#### COURSE DESCRIPTION

Batteries, sometimes called cells or accumulators, are a source of electrical energy generated by the direct conversion of chemical energy from the materials contained within the battery cell.

There are many types in common use, some are known as primary cells and are not generally considered rechargeable and so are single use and disposable.

Rechargeable batteries, known as secondary cells, are used in all kinds of everyday personal and industrial devices, machines and equipment.



#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Define some of the roles of the Uninterruptible Power Supply (UPS)
- Explain the roles of batteries in the Oil and Gas industry
- Explain the different battery capabilities
- Describe the different types of batteries
- Explain battery maintenance requirements
- Identify the components of common battery types
- Explain the concept of battery capacity
- Explain how batteries function both in series and parallel
- Identify the different methods of recharging a battery
- Recognise potential hazards
   when working with batteries

Approx. Duration:Knowledge Check:Exam:Languages:Modules:30minYesYesENG1



The decisions we make are based on our behaviour, and bad behaviour will often lead to bad decisions followed by bad consequences.

# Introduction to Behavioural Safety



#### COURSE DESCRIPTION

Our behaviour is a major factor in keeping us safe in our day to day lives. The decisions we make are based on our behaviour, and bad behaviour will often lead to bad decisions followed by bad consequences. In the workplace, you may have the best health and safety processes set up, but if behavioural choices stop people from following them it will make little difference to the business's overall health and safety.

In this course we look at how we make business choices, how our behaviours can be influenced and how we develop habits, and we will also learn some methods of changing bad habits into good habits.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Key principles of Behavioural Safety
- What factors can influence behaviour
- Time versus risk decisions
- How we can change our behaviour

Approx. [	Duration:
35r	nin

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



Inhaling or ingesting benzene, or allowing it to come into contact with your skin, can have serious health effects. These range from mild symptoms, such as headaches and dizziness, to serious conditions caused by prolonged exposure, such as leukaemia and other cancers of the blood system.

### **Benzene Awareness**



#### COURSE DESCRIPTION

Benzene is a naturally occurring chemical compound that is used in a wide range of industrial processes and everyday products. Benzene is also toxic and carcinogenic. Inhaling or ingesting benzene, or allowing it to come into contact with your skin, can have serious health effects. These range from mild symptoms, such as headaches and dizziness, to serious conditions caused by prolonged exposure, such as leukaemia and other cancers of the blood system.

This course is designed to help you understand the dangers benzene poses, the measures you can put in place to minimise your risk of exposure and what to do if you are exposed to benzene.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What benzene is and where it can be found
- The effects of exposure to benzene
- The safety precautions necessary to protect yourself against exposure
- What to do if you are exposed to benzene

Approx.	Duration
25	min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



A leaking flange can prove very costly, halting production and also threatening the health and safety of employees, and the environment.

### **Bolted Joint Awareness**



#### COURSE DESCRIPTION

A leaking flange can prove very costly, halting production and also threatening the health and safety of employees, and the environment.

This awareness module will cover the correct checks and techniques for the assembly of the main types of bolted joint and clamp hub which will ensure a leak free joint.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The different components of a bolted joint
- The correct assembly process
- The risks associated with bolted joint assembly
- How to mitigate these risks





Robert Boyle was a 17th century scientist who discovered that the absolute pressure and the volume of a gas in a closed system are inversely proportional.

### **Introduction to Boyle's Law**



#### COURSE DESCRIPTION

Robert Boyle was a 17th century scientist who discovered that the absolute pressure and the volume of a gas in a closed system are inversely proportional.

The course will teach you what Boyle's Law is, then take you through an exercise, showing you how to use Boyle's Law to work out the pressure in a closed system.

There are also questions throughout the course to confirm your learning. It ends with a final problem for you to work out using Boyle's Law.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Robert Boyle and Boyle's Law
- Principles of gases
- Using Boyle's Law in a closed system

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
25min	Yes	Yes	ENG	1



Cleaning with specialist chemicals is very versatile, and it can be designed to suit many different cleaning situations.

### Introduction to Chemical Cleaning Modules 1-3



#### COURSE DESCRIPTION

Process systems and pipelines carry a huge volume of fluids in various different sectors of industry. Any reduction in operation or flow can be costly.

Cleaning with specialist chemicals is very versatile, and it can be designed to suit many different cleaning situations.

This course will show you the when, where and how of chemical cleaning, including degreasing, chemical selection options and essential health and safety precautions.

### **()**

### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What chemical cleaning is
- Where chemical cleaning is performed
- Why do we need chemical cleaning?
- The chemicals used for chemical cleaning
- Where chemical cleaning is performed
- How we de-grease and de-rust systems
- How we decontaminate systems
- The restrictions of chemical cleaning
- What the risks of chemical cleaning are
- Precautions to take when using chemical cleaning

Approx. Duration:	Knowledge Check:	Exam:	Languages:
90min	Yes	Yes	ENG

Modules:



In the oil and gas industry, the use of chemicals is vital to maintaining efficient operations throughout all phases.

### Introduction to Chemical **Releases and Management**



#### **COURSE DESCRIPTION**

In the oil and gas industry, the use of chemicals is vital to maintaining efficient operations throughout all phases, from initial drilling, to subsequent production, pipeline and maintenance operations all the way through to abandonment and decommissioning operations.

It is a requirement that the use of chemicals in an offshore environment is implemented and properly managed with respect to selection and approval for use, purchase and transport to location, and once on location how chemicals are safely stored and used in operations.



#### **COURSE OBJECTIVES**

By the end of this course you should be able to:

- Relate to potential impacts of chemical use and releases to the environment
- Explain why accurate measurement of all chemical usage is important
- Identify various legislation covering chemical usage offshore
- Describe the requirements for maintaining safe chemical storage
- List some of the areas where chemicals are used on a process facility
- Recognise the precautions used to prevent and mitigate chemical spills
- Consider where chemicals may be used on an offshore facility
- State how and why chemical usage is recorded and reported

Approx. Duration: Exam: Knowledge Check: Languages: 40min Yes Yes ENG



In the oil and gas industries, the term 'coiled tubing' refers to the continuous lengths of steel pipe, stored on large reels, and most commonly used for carrying out intervention operations in existing wells.

# **Introduction to Coiled Tubing**



#### COURSE DESCRIPTION

In the oil and gas industries, the term 'coiled tubing' refers to the continuous lengths of steel pipe, stored on large reels, and most commonly used for carrying out intervention operations in existing wells.

This Coiled Tubing Introduction is designed to provide learners with a starting point from which to develop their understanding of the techniques and technologies involved when utilizing coiled tubing in downhole interventions.

We'll look at how and why the technology was developed, the difference between land and offshore units and the advantages and disadvantages offered by coiled tubing technology.

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#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Explain the origins of coiled tubing technology and some of its early uses
- Identify the various different sizes of coiled tubing available
- Discuss the pros and cons of employing coiled tubing for remedial work and well interventions
- Describe some of the new technologies being employed in coiled tubing manufacture

Approx. Duration: **25min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Here we will look at each of the primary components of the coiled tubing spread, including the work reel, power pack, injector, pressure control equipment and the control cabin.



### **Coiled Tubing Equipment Overview**



#### COURSE DESCRIPTION

The purpose of this module is to further develop the participants understanding of coiled tubing, specifically the range of equipment required for a successful well intervention operation

Here we will look at each of the primary components of the coiled tubing spread, including the work reel, power pack, injector, pressure control equipment and the control cabin.

We also talk about the auxiliary equipment and supporting structures required for certain operations. Finally we look at the components of the wellhead and Christmas tree and the role they play in well control.

### COURSE OBJECTIVES

By the end of this course you should be able to:

- Recognize the basic surface equipment that comprises a typical coiled tubing unit
- Describe the basic functions of each component and its importance to an operation
- Identify the differences between various land based units and specifically offshore designated units
- Explain the role played by support structures, cranes, lifting equipment and Christmas tree valves and functions in coiled tubing operations

Approx. Duration: **40min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Throughout our industry you will always be exposed to different forms of gas – which means understanding their properties and how they interact with their environment is essential to the safety of yourself and others around you.

### **Compressed Gas Cylinder Awareness**



#### COURSE DESCRIPTION

Throughout our industry you will always be exposed to different forms of gas – which means understanding their properties and how they interact with their environment is essential to the safety of yourself and others around you.

Created in collaboration with BOC, this course will look at the various hazards involved with these industrial gases, how they can be safely stored and transported to avoid incident and the procedures required in the event of an emergency.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The BCGA Codes of Practice and legislation
- Hazards, properties and identification of industrial compressed gases
- Safe storage of compressed gas cylinders and the design process
- Gas control and safety equipment
- What to do in the event of incidents and emergencies with industrial compressed gas cylinders

Approx. Duration: 40min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Every year, several people are killed or seriously injured in the UK due to accidents in confined spaces. This is often due to insufficient training and the lack of a safe system of work.

# **Confined Space Entry**



#### COURSE DESCRIPTION

The HSE defines a confined space as 'any space of an enclosed nature where there is a risk of death or serious injury from hazardous substances or dangerous conditions, for example - lack of oxygen'.

Every year, several people are killed or seriously injured in the UK due to accidents in confined spaces. This is often due to insufficient training and the lack of a safe system of work.

This course will help you to recognise the hazards of confined space working and show you how to mitigate the risks and work safely.

#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Recognising what can be classified as a confined space
- Some of the potential hazards associated with confined spaces
- What the risks are and how to control them
- What to do in the event of an emergency

Approx.	Duration:
50	min

Knowledge Check: Yes Exam: Yes Languages: ENG



The prime purpose of any joint is in maintaining containment integrity in order to keep what are usually hazardous, pressurised and hot or cold materials in the place they are intended to be.

### Introduction to Controlled Bolting



#### COURSE DESCRIPTION

Piping can be made from many materials; however, the oil and gas-based petrochemical and refining industries mostly uses steel or steel alloys in the construction of process piping systems. Individual piping components are joined together to form the complete process system.

Processing facilities contain a significant amount of pipework that need to be connected. There are several methods used to join piping or tubing together, most facilities are constructed using a combination of welded, bolted and threaded joints.

The prime purpose of any joint is in maintaining containment integrity in order to keep what are usually hazardous, pressurised and hot or cold materials in the place they are intended to be.

### COURSE OBJECTIVES

By the end of this course you should be able to:

- Identify different components of a bolted joint
- Explain correct assembly processes
- Relate to risks associated with bolted joint assembly
- Recognise how to mitigate risks

Approx.	Duration		
35min			

Knowledge Check: Yes Exam: Yes Languages: ENG



Many different types of valves can be found, and used to perform specific functions, but all must be selected according to a range of criteria; such as the pressure, temperature and flow characteristics they will be subjected to, and constructed of a material capable of withstanding corrosive and/or abrasive materials during operation.

# **Introduction to Control Valves**



#### COURSE DESCRIPTION

Many different types of valves can be found, and used to perform specific functions, but all must be selected according to a range of criteria; such as the pressure, temperature and flow characteristics they will be subjected to, and constructed of a material capable of withstanding corrosive and/or abrasive materials during operation.

This course looks at the various types of control valve, their differences and uses in the industry.



#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe what actuated control valves are used for
- Explain control valve operation
- Identify key components of a pneumatically actuated globe type control valve
- Describe how a control loop uses control and actuating signals in valve operation

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
<b>30min</b>	<b>Yes</b>	<b>Yes</b>	ENG	1



Hazardous substances can cause many health problems, ranging from a mild irritation through to permanent damage, or even death.

## **Introduction to COSHH**



#### COURSE DESCRIPTION

Hazardous substances have the potential to cause harm to you, your equipment and the environment. They can take many different forms, and it is important to be able to recognise the hazards so you can control the risks. Hazardous substances can cause many health problems, ranging from a mild irritation through to permanent damage, or even death.

In this course we look at the 'Control of Substances Hazardous to Health', or COSHH, regulations, reveal the potential health effects of exposure to hazardous substances and the need to ensure that this exposure is controlled within the workplace, and we will learn how to minimise the risks.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What COSHH is
- The legal implications of COSHH
- How to minimise your exposure to hazardous substances
- The potential health effects of exposure
- The importance of COSHH in the workplace

Approx.	Duration:		
45min			

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:


Injuries and dangerous occurrences arising from lifting operations account for almost 20% of offshore incidents.

# **Crane Safety Awareness**



### COURSE DESCRIPTION

Crane operations are an everyday part of the oil and gas industry; lifting a multitude of supplies and materials on and off various facilities and vessels. However, injuries and dangerous occurrences arising from lifting operations account for almost 20% of offshore incidents.

In this course we will look at the potential hazards when using cranes, and the health and safety procedures in place to ensure their safe operation.

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# COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe the importance of clear communication
- Identify whether equipment is fit for use
- Classify the hierarchy and job roles of Lifting Team members
- Recognise the importance of the Lift Plan
- Relate lifting operations to LOLER regulations

Approx. Duration:Knowledge Check:Exam:Languages:Modules:45minYesYesENG1



Dangerous goods are anything that could pose a significant risk to people, health, property or the environment when transported in significant quantities.

# **Dangerous Goods By Air**



### COURSE DESCRIPTION

Dangerous goods are anything that could pose a significant risk to people, health, property or the environment when transported in significant quantities.

This course is designed to raise awareness of the key issues surrounding the transportation of dangerous goods. You will learn how dangerous goods are defined, regulated, distinguished, packaged, labelled and transported. You will also learn what to do in the event of an emergency involving dangerous goods.

# COURSE OBJECTIVES

- Define what is meant by dangerous goods
- Identify the regulations that apply to the transport of dangerous goods by air
- Distinguish between the various dangerous goods hazard classes
- List the different types of dangerous goods packaging
- Label a dangerous goods package for transport
- Describe how to safely transport and document a dangerous goods package
- Define the responsibilities of the Operator and the Captain in the event of an emergency

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
60min	Yes	Yes	ENG	1



This short and very moving film looks at the consequences of decisions and the domino effect of allowing certain behaviours to pass as normal.



# **Dead Jed**



### COURSE DESCRIPTION

You make decisions every day, we all do, but I bet you don't give them much thought.

The Oil and Gas industry can be a hazardous environment, where a small decision could soon escalate into something far larger. Have you ever thought about the possible impact of your decisions, your 'short cuts' to 'get the job done quicker'?

This short and very moving film looks at the consequences of decisions and the domino effect of allowing certain behaviours to pass as normal.



### COURSE OBJECTIVES

- Identify the consequences of taking shortcuts
- Identify the implications of not following the correct procedures
- Recognise the knock-on effects of quick and careless decisions

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
20min	<b>No</b>	No	ENG	1



Use of computer workstations or equipment can be associated with neck, shoulder, back or arm pain, as well as fatigue and eyestrain.

# Display Screen Equipment Awareness



### COURSE DESCRIPTION

Display Screen Equipment, or DSE, has become the most common piece of work equipment. Therefore, use of computer workstations or equipment can be associated with neck, shoulder, back or arm pain, as well as fatigue and eyestrain.

This course is designed to give the learner an awareness of what the Health and Safety Display Screen Equipment Regulations (1992) are and how they protect the health of personnel who work with DSE. We will look at an individual's desk, chair and posture positioning as well as employer and employee responsibilities.

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# COURSE OBJECTIVES

- Explain what is meant by DSE and why awareness is important
- Answer some of the commonly asked questions regarding DSE
- Set your own workstation up correctly and ergonomically
- Know where to look for further information

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
40min	Yes	Yes	ENG	1



The interactive Double Block and Bleed simulator is designed to guide you through the process of applying a Double Block and Bleed to a pipeline during a maintenance scenario.

# Double Block and Bleed Simulator



### COURSE DESCRIPTION

The following interactive Double Block and Bleed simulator is designed to guide you through the process of applying a Double Block and Bleed to a pipeline during a maintenance scenario.

Take your time and follow the instructions carefully. You will be able to restart the process should you make a mistake.

# COURSE OBJECTIVES

By the end of this course you should be able to:

Explain how to perform a
Double Block and Bleed

Approx. Duration: <b>20min</b>	Knowledge Check:	Exam:	Languages:	Modules:
	<b>No</b>	<b>No</b>	ENG	1



Driving Safety Awareness teaches us why safety on the road is so essential and explains why you need to consider your driving habits to keep you, your passengers and other road users from harm.

# **Driving Safety Awareness**



### COURSE DESCRIPTION

Driving Safety Awareness teaches us why safety on the road is so essential and explains why you need to consider your driving habits to keep you, your passengers and other road users from harm.

Here we cover the main causes of traffic related accidents such as cognitive distraction, being under the influence, road surfaces, poor vehicle maintenance and speeding.

The course explains in depth what can happened during an accident and the driving challenge game shows how easy it is to be distracted at the wheel, whilst testing your reaction time. Finally the course identifies key ways in which to help improve your driving.



### COURSE OBJECTIVES

- Explain why you may need to consider your driving habits
- Classify the main causes of traffic related accidents
- Explain what happens during an accident
- Identify ways to improve your driving

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
25min	Yes	Yes	ENG	1



If an object falls, the force of gravity will pull it towards the ground and if you happen to be in the way - it will hit you; it's as simple as that.

# **Dropped Object Awareness**



### COURSE DESCRIPTION

A dropped object is defined as 'any object that falls from its previous static position under its own weight'. If an object falls, the force of gravity will pull it towards the ground and if you happen to be in the way - it will hit you; it's as simple as that.

The degree to which you might get injured will be influenced by many factors, but the simple rule of thumb is, the heavier or the further an object can fall, the more damage and injury it can cause.

This course will help you identify potential dropped objects, and look at ways to reduce the risk of harm.



# COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Potential dropped objects
- The common causes
- Control and prevention methods
- Roles and responsibilities
- Maintaining awareness and continuous improvement



Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



In recent years, industrywide initiatives designed to increase awareness of dropped objects have led to a decline in the overall number of related incidents. Despite this good work however, accidents still happen.

# Dynamic Dropped Object Awareness



### COURSE DESCRIPTION

In recent years, industry-wide initiatives designed to increase awareness of dropped objects have led to a decline in the overall number of related incidents. Despite this good work however, accidents still happen.

One particular area that remains a concern is "dynamic dropped objects", which have been identified as the root cause in a significant majority of incidents.

# COURSE OBJECTIVES

- Define dynamic dropped objects
- Describe how they differ from regular dropped objects
- Explain the various applied forces that can cause a dynamic dropped object

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
15min	Yes	Yes	ENG	1



Electricity can cause death or injury, fires and explosions. Additional risks exist where flammable materials are present, as in the oil and gas industry.

# Introduction to Electrical Isolations



#### COURSE DESCRIPTION

Electricity can cause death or injury, fires and explosions. Additional risks exist where flammable materials are present, as in the oil and gas industry.

Electricity is widely used to power operating equipment and control systems on a facility and in the provision of utility supplies, such as heating and lighting.

It is vital that electricity is treated with respect and that a safe system of work is employed when working on or near systems and equipment that may be energised or powered by electricity.

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# COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe some of the potential hazards of live electrical equipment
- Explain the importance of a safe system of work
- Recognise the tools and equipment required to apply isolations
- Understand how to remove isolations under a SSOW

Approx.	Duration:
40	min

Knowledge Check: Yes Exam: Yes Languages: ENG



There are many hazards involving electricity, and if used without proper precautions, it can cause severe injuries and even death.

# **Electrical Safety Rules**



### COURSE DESCRIPTION

Electricity is everywhere, as it is a convenient and efficient power source which can be used to power almost every appliance, at both home and work. But, there are many hazards involving electricity, and if used without proper precautions, it can cause severe injuries and even death.

In this course we will take a look at some of the legislation regarding working safely with electricity, the hazards of electricity and the injuries it can cause. We'll also learn about some of the safety precautions that can be taken and how performing risk assessments can reduce the likelihood of injury.



# COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Rules and regulations for electrical safety
- Hazards of electricity
- What precautions should be taken
- How to reduce the risk of electrical hazards

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
35min	<b>Yes</b>	<b>Yes</b>	ENG	1



It is not generally known, but electricity is the most common cause of fires in both the home and industry. It is taken for granted by most people who use it constantly all day, every day.



# **Introduction to Electricity** Modules 1-2



### COURSE DESCRIPTION

It is not generally known, but electricity is the most common cause of fires in both the home and industry. It is taken for granted by most people who use it constantly all day, every day.

In this introductory course we will explain the basics of electricity, what it is and how it works. We will learn about the different types of circuit, electrical safety and the relevant terminology.

We will also look at the various ways electricity can be produced and how it is then supplied to users.

# COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- An appreciation of what electricity is and how it is used
- The dangers inherent with electricity
- The various terms relating to electricity and circuits
- The relationship between electricity and magnetism
- How to calculate voltages, amps, watts and resistance

Approx.	Duration:		
65min			

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



Electricity brings into our lives all the modern products and gadgets which we take for granted. These devices are often unseen and unrecognised, but utterly essential to our business and social lives.

# **Introduction to Electronics**



#### COURSE DESCRIPTION

Electricity brings into our lives all the modern products and gadgets which we take for granted. These devices are often unseen and unrecognised, but utterly essential to our business and social lives. We use electronic components to control and affect the way electricity flows.

In this introduction we will take a look at these electronic components, how they work and how to identify them. We'll learn about circuits, diagrams and calculations. We will also explain the relationship between voltage, current and resistance with the help of Ohm's Law.



### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What electronics are
- How electronics work
- How to identify electronic components
- What electronic circuits and diagrams look like
- How to calculate voltage, watts, amps and resistance

Approx. Duration: 45min Knowledge Check: Yes Exam: Yes Languages: ENG Modules:

1



Some scientists estimate that due to global warming, the ice caps and glaciers could melt, and over the next hundred years sea levels could rise by between 10 cm and 90 cm - making many coastal areas around the World uninhabitable.

# **Environmental Awareness**



### COURSE DESCRIPTION

The effects of environmental damage are very serious. Some scientists estimate that due to global warming, the ice caps and glaciers could melt, and over the next hundred years sea levels could rise by between 10 cm and 90 cm - making many coastal areas around the World uninhabitable.

Here we will learn what is meant by the term 'Environment' and look at the various causes of environmental damage, from pollution to logging, to discover just what it is and what can be done to prevent it in the future. We will also look at various forms of energy production and the effects they are having on our atmosphere.



# COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The physical and human environment
- Renewable and non-renewable energy
- The greenhouse effect and global warming
- Types of pollution
- What you can do to help

Approx.	Duration
50	min

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



In this course, participants will learn about the potential dangers of fatigue, not just in the workplace, but particularly when driving to and from work as well.



# Introduction to Fatigue Management



### COURSE DESCRIPTION

In this course, participants will learn about the potential dangers of fatigue, not just in the workplace, but particularly when driving to and from work as well.

We will look at the rules and regulations surrounding overtime, shift durations and what to do if you suspect your colleagues may be suffering from fatigue.

# COURSE OBJECTIVES

By the end of this course you should be able to:

- Recognise the symptoms of fatigue
- Outline fatigue management systems
- Describe how risk assessments should consider fatigue potential
- Explain how the circadian rhythm affects the human body
- Outline how lifecycles and fatigue can impact on health
- Recognise that working in hot or cold environments can increase fatigue levels

Approx. Duration: **25min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Incidents have occurred where the incorrect fitting has been used and subsequently blown out causing damage to equipment and even worse, serious injuries or even death to personnel.

# Introduction to Fittings Modules 1-2



### COURSE DESCRIPTION

Some fittings look very similar to the naked eye, when in actual fact they are very different. Incidents have occurred where the incorrect fitting has been used and subsequently blown out causing damage to equipment and even worse, serious injuries or even death to personnel.

This course will teach you how to identify many common fittings and use them safely. Taking a little time to understand this course could make a big difference.



### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Fittings safety
- Types of fittings
- Sealing the threads
- Thread damage and prevention
- Compression fittings
- How to seal compression fittings
- Pressure ratings
- Thread problems and damage prevention

Approx. Duration:Knowledge Check:Exam:Languages:Modules:85minYesYesENG2



Many don't appreciate how easily food can transmit disease from person to person, serving as a vessel for bacteria which can cause illness or even death.

# **Food Hygiene**



### COURSE DESCRIPTION

Food safety is essentially the discipline of handling, preparing and storing food in ways that will prevent foodborne illness. Many don't appreciate how easily food can transmit disease from person to person, serving as a vessel for bacteria which can cause illness or even death. Food poisoning is 100% preventable as long as the correct, simple procedures are adhered to.

This course is designed to help you understand the dangers of improper food hygiene, and explain the correct methods for preventing food poisoning and the spreading of bacteria.



# COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The importance of personal hygiene
- How to avoid food poisoning
- Processes when dealing with food
- How to avoid food contamination
- What is good practice for food hygiene

Approx.	Duration:
30	min

Knowledge Check: Yes Exam: Yes Languages: ENG



Not understanding the principles of forklift truck operations, operating a truck carelessly, using a defective forklift truck or using it for the wrong reasons can result in serious and even fatal injuries.

# Introduction to Forklift Truck Safety



#### COURSE DESCRIPTION

'Forklift truck' describes a number of different types of mobile, self-propelled trucks used to lift, move and stack a wide range of goods and materials. Designed to reduce the need for manual lifting and carrying, they can still present a number of hazards.

Not understanding the principles of forklift truck operations, operating a truck carelessly, using a defective forklift truck or using it for the wrong reasons can result in serious and even fatal injuries.

This course aims to teach you about the safe operation of forklift trucks, and the hazards associated with using them.



By the end of this course you should be able to:

- Recognise a variety of types and classifications of forklift truck
- Describe correct and safe forklift truck operation
- Explain the training requirements and procedures

Approx.	Duration:
30min	

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



In terms of oil and gas, hydraulic fracturing, commonly known as 'fracing', is the process of pumping special fluids at very high flow rates and pressures into a well, in order to fracture and prop open the rock formation.

# **Introduction to Fracing**



### COURSE DESCRIPTION

Hydraulic fracturing, as the name implies, is the process of breaking something with a hydraulic force. In terms of oil and gas, hydraulic fracturing, commonly known as 'fracing', is the process of pumping special fluids at very high flow rates and pressures into a well, in order to fracture and prop open the rock formation.

From the first fracing jobs in the 1860s to modern operations, this course covers why and how we frac and explains what a typical fracing operation entails.

# COURSE OBJECTIVES

- Define the process of fracing
- Explain why fracturing operations are carried out
- Describe a typical fracing operation
- Identify the hazards, risks and controls that apply to fracing





# **Fundamentals of Drilling Suite** Modules 1-5



COURSE DESCRIPTION

Please see details for all courses in this suite.



# COURSE OBJECTIVES

Please see details for all courses in this suite.

Approx. Duration: **140min** 

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



Here we cover the purpose of primary well control and see how potential hazards are avoided. We look at how well control is maintained with a column of drilling fluid providing the correct hydrostatic pressure.

# Introduction to Primary Well Control



#### COURSE DESCRIPTION

This Introduction to Primary Well Control teaches us that safety is always the primary concern. Here we cover the purpose of primary well control and see how potential hazards are avoided. We look at how well control is maintained with a column of drilling fluid providing the correct hydrostatic pressure.

Key components of the system that conditions and pressurises the mud for circulating downhole are explained. We also explore how casing and wellhead systems provide support for the formation and form a conduit for fluids to return to the surface during drilling operations.

# COURSE OBJECTIVES

By the end of this course you should be able to:

- Explain the fundamentals of pressure control and the methods used in maintaining primary well control
- Give examples of the potential hazards associated with the loss of primary well control
- Recognise the basic terminology used in primary well control

Approx. Duration: 20min Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Where primary well control is all about the use of drilling mud to control the influx of formation fluids into the well bore, in this module we look at the components that make up secondary well control systems and the roles they play in the event that the primary well control has failed - resulting in a kick.

# Introduction to Secondary Well Control and API Recommended Practices



### COURSE DESCRIPTION

Where primary well control is all about the use of drilling mud to control the influx of formation fluids into the well bore, in this module we look at the components that make up secondary well control systems and the roles they play in the event that the primary well control has failed - resulting in a kick.

Equipment covered includes Ram type BOPs, Annular BOPs, Choke and Kill Valves, Spools, the Bell Nipple, Control Units and Choke systems and we'll see how they work as a system to bring the well back under control. We then move on to document some tertiary well control methods and worst case scenarios before giving an overview of the relevant API Recommended Practices for controlling well operations.



# COURSE OBJECTIVES

By the end of this course you should be able to:

- Explain the roles of the equipment associated with maintaining **Secondary Well Control**
- Describe the three types of well control and what each entails
- Identify the major items of equipment and materials used in Secondary Well Control
- Identify and reference the basic **API Recommended Practices** commonly required for Pressure **Control Methods and Equipment**

Approx. Duration: 25min

Knowledge Check: Yes

Exam: Yes

Languages: ENG

Modules:



Drilling an oil or gas well is no simple matter, and as viable reservoirs become harder to access, new technology needs to be developed to overcome the problems posed in reaching these hydrocarbon deposits.

# **The Drill String**



### COURSE DESCRIPTION

Drilling an oil or gas well is no simple matter, and as viable reservoirs become harder to access, new technology needs to be developed to overcome the problems posed in reaching these hydrocarbon deposits.

In this module, we look at a range of drill string components and the roles they play in ensuring the success of a drilling operation. Equipment covered includes Drill Bits, Drill Collars, Drill Pipe, Stabilizers, Reamers, Motors, Heavy Weight Drill Pipe and Jars.

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# COURSE OBJECTIVES

By the end of this course you should be able to:

- Recognise the most common components of the drill string
- Identify the common features shared by all tubulars
- Explain the purpose of each part of the bottom hole assembly
- Describe the difference between heavy weight and normal weight drill pipe
- List some of the advanced BHA tools used for drilling wells

Approx.	Duration:			
20min				

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



**Identifying different thread** types and differentiating between standard and premium threads can be quite difficult, but downtime can easily result when incompatible tools fail while in service or are lost in hole due to connections parting.

# **Drill String Connections**



### **COURSE DESCRIPTION**

Identifying different thread types and differentiating between standard and premium threads can be quite difficult, but downtime can easily result when incompatible tools fail while in service or are lost in hole due to connections parting. In this course we look at ways to identify thread types and sizes and recognise any obvious defects, and we learn the importance of applying the correct torque to the make-up of these connections.

The features of tool joints and the design elements that ensure a good, pressure tight seal when fully made up are also detailed, followed by an explanation of the forces acting on the connection.

# **COURSE OBJECTIVES**

By the end of this course you should be able to:

- Identify the common features of tool joints,
- Describe the difference between standard and premium connections,
- List the various methods of identifying thread types, and
- Explain the importance of properly torquing a threaded connection.

Approx. Duration: 45min

Knowledge Check: Yes

Exam: Yes

Languages: ENG

Modules: 1



There are many factors that need to be taken into consideration when planning effective blowout prevention, many of which are based on hard lessons learned from past incidents.

# **BOP Control Systems**



#### COURSE DESCRIPTION

There are many factors that need to be taken into consideration when planning effective blowout prevention, many of which are based on hard lessons learned from past incidents.

This course is designed to provide an overview of the systems and controlling elements employed, both for surface and subsea operations, in order to prevent kicks turning into blowouts.

We also take a look at the checks that should be made on the equipment and the API recommended practices that relate to all well control components and procedures.

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# COURSE OBJECTIVES

By the end of this course you should be able to:

- Identify the main components of BOP control systems
- Define the functions and operation of the system and components in relation to secondary well control
- Conduct basic maintenance and inspections required on BOP control systems
- Describe an overview of industry standards and key requirements that relate to the function, selection and operation of BOP control systems

Approx. Duration: **30min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Have you ever thought about the impact an accident at work could have on your life, or the lives of those closest to you?

# **Gail's Shoes**



#### COURSE DESCRIPTION

Have you ever thought about the impact an accident at work could have on your life, or the lives of those closest to you?

This short, and very moving film tells the story of Gail, whose life has been altered forever by a single, tragic incident at her husband's workplace.



### COURSE OBJECTIVES

- Consider the importance of Health and Safety provision at work
- Consider the impact that an accident at work could have on your life
- Consider the responsibility we all have to stay as safe as possible at work

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
<b>7min</b>	<b>No</b>	No	ENG	1



They may also contain nonhazardous substances, but still represent a possible threat due to pressures, temperatures, volumes and potential rates of flow.

# Introduction to Gaskets and Sealing Rings



### COURSE DESCRIPTION

Gaskets and ring joints are commonly used in the construction of facilities designed to contain potentially hazardous liquids, solids or gases.

They may also contain non-hazardous substances, but still represent a possible threat due to pressures, temperatures, volumes and potential rates of flow.

All pipework and equipment is typically joined by flanged or clamped connections, and other, more specialised unions.

These connections invariably require the use of a sealing element, which, if incorrectly selected, fitted or handled, could lead to leaks.



# COURSE OBJECTIVES

By the end of this course you should be able to:

- Identify the main types of gasket and sealing ring
- Explain the function and purpose of gaskets
- Demonstrate how a gasket is used
- Describe the importance of protecting gaskets and sealing faces from damage
- Identify gaskets by their markings

Approx.	Duration:
30	min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Hammer Unions are widely used throughout the energy industry. Hammer Unions come in many sizes, shapes and pressure ratings, and when used correctly they are a safe and reliable means of connecting pipes for transporting fluid.

# Introduction to Hammer Unions Modules 1-2



### COURSE DESCRIPTION

Hammer Unions are widely used throughout the energy industry. Hammer Unions come in many sizes, shapes and pressure ratings, and when used correctly they are a safe and reliable means of connecting pipes for transporting fluid.

Perhaps one of the most critical elements to correct hammer union use is that the two halves are compatible. There are, however, combinations which will allow a high pressure hammer union to be mated with a low pressure union, leaving the user at risk of connection failure and serious injury.

In this course we will look at hammer unions in detail, maintenance, safe use and the consequences of mismatching unions.

# COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What a Hammer Union is and how to recognise one
- How a Hammer Union seals
- The consequences of mismatching Hammer Unions
- How to maintain Hammer Unions

Approx.	Duration
50	min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



One in ten people who work with vibrating tools may develop a painful and debilitating condition known as Hard Arm Vibration Syndrome.

# Introduction to Hand Arm Vibration Syndrome



### COURSE DESCRIPTION

Did you know that one in ten people who work with vibrating tools may develop a painful and debilitating condition known as Hard Arm Vibration Syndrome? Hand Arm Vibration Syndrome, more commonly known as HAVS, is caused by too much exposure to vibration from hand held power tools.

In this course we will look in more detail at the causes, symptoms and consequences of HAVS as well as looking at the preventative measures you can take to reduce your chances of contracting this condition.

# COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What Hand Arm Vibration Syndrome (HAVS) is
- How to identify the causes of HAVS
- Recognising the symptoms of HAVS
- Preventing permanent damage to your health
- Where to obtain further information about HAVS

Approx.	Duration:
30	min

Knowledge Check: Yes Exam: Yes Languages: ENG



We take our hands for granted and this is why you must take care when performing tasks that could potentially cause them harm.

# Hand Awareness



#### COURSE DESCRIPTION

Just think for a moment all the tasks you couldn't do without your hands; even simple tasks like tying your shoelaces becomes much more difficult without the full use of our hands.

We take our hands for granted and this is why you must take care when performing tasks that could potentially cause them harm, as damage to your hands can be very difficult to repair due to their complexity.

Through this course you will learn the various kinds of injuries your hands can sustain as well as the methods you can use to prevent injury from occurring.



### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The importance of your hands
- What injuries your hands can sustain
- How to protect your hands from injury

Approx.	Duration:
40	min

Knowledge Check: Yes Exam: Yes Languages: ENG



Health and safety in the workplace is relevant to all branches of industry - from offices and schools, to leisure facilities and oil rigs.

# Introduction to Health and Safety at Work for Employees



### COURSE DESCRIPTION

Health and safety in the workplace is relevant to all branches of industry - from offices and schools, to leisure facilities and oil rigs.

This course pulls together the vital elements of health and safety, including some of the key terminology you should be aware of, and the importance of tackling 'near misses' within the workplace.

We will also test your knowledge of workplace hazards with an interactive scene, and show you how to incorporate what you've learnt into a simple risk assessment.



### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Some key health and safety terminology
- Health and safety policy and the law
- Your, and your employer's responsibilities
- The key hazards in the workplace
- How to undertake a simple risk assessment

Approx. Duration: 45min Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



Hoses have a massive part to play in industry, and hose failure, even if the pressure inside is relatively low, can have serious consequences to equipment, personnel and the environment.



# **Introduction to Hoses**



### COURSE DESCRIPTION

Hoses have a massive part to play in industry, and hose failure, even if the pressure inside is relatively low, can have serious consequences to equipment, personnel and the environment. If the pressure is high, the consequences could be catastrophic. We begin by looking at what a hose is, and the make-up of different types of hoses to suit a huge variety of uses.

We will then look at some points to consider when selecting and using a hose, along with general maintenance for prolonging their lifespan. Finally, we will cover some of the most common safety systems in use throughout industry to reduce the risk of injury and damage from hose related incidents.

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# COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What hoses are, and why they are used
- How hoses are constructed for different tasks
- Things to consider when selecting a hose
- Hose management and safety systems

Approx.	Duration			
40min				

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



# **Introduction to Human Factors**



### COURSE DESCRIPTION

The Health and Safety Executive defines Human Factors as 'referring to environmental, organisational and job factors, and human and individual characteristics, which influence behaviour at work in a way that could affect health and safety'.

When we think about accident prevention, when we formulate design, safety case, risk assessments and procedures, it's pretty clear that human factors should be our first consideration.

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### COURSE OBJECTIVES

- Get a good grip on how human factors and failures can affect business performance
- Show how workforce communication enhances workplace safety
- Explain how analysis of incidents and near misses can identify areas where human factors can be addressed
- Understand the benefits of incorporating the potential effects of human factors into the initial design of a facility

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
25min	<b>No</b>	<b>No</b>	ENG	1



Hydrates are a crystalline, ice like substance containing gases and water that form naturally in environments where pressure, temperature and other effects combine to create a crystal growth.

# **Hydrates Awareness**



### COURSE DESCRIPTION

Hydrates are a crystalline, ice like substance containing gases and water that form naturally in environments where pressure, temperature and other effects combine to create a crystal growth.

This ice is often referred to as 'Fire Ice', Methane Hydrates or Clathrate Hydrates. While other gases, such as Oxygen, Hydrogen,  $CO_2$ ,  $H_2S$  and Propane can form hydrates, it is the combining of water and methane that we will focus on.

We will look at the cause, effect and treatment of hydrates and demonstrate how to determine the conditions that produce a high risk of hydrate formation and so help mitigate or prevent occurrences.

# Ø

# COURSE OBJECTIVES

By the end of this course you should be able to:

- What hoses are, and why they are used
- How hoses are constructed for different tasks
- Things to consider when selecting a hose
- Hose management and safety systems

Approx.	Duration			
40min				

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Hydraulic systems are commonly used throughout the world, especially within industry, for operations that require repeated but precise movement.

# **Introduction to Hydraulics** Modules 1-2



### COURSE DESCRIPTION

Hydraulic systems are commonly used throughout the world, especially within industry, for operations that require repeated but precise movement. For example, digging a hole near underground pipes or lifting a heavy load in a hazardous environment.

This course will provide you with an overview of hydraulic systems, the principles behind hydraulic power, and a guide to calculating hydraulic pressures.



The aim of this course is to teach you about the following subjects:

- How a hydraulic system operates
- Basic hydraulic theory
- The components that make up a hydraulic system
- The health and safety requirements when using hydraulic systems

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
60min	Yes	Yes	ENG	2



Accumulating in low lying areas, it may go unnoticed. In high doses, one breath can kill instantly.

# **Hydrogen Sulphide Awareness**



### COURSE DESCRIPTION

Hydrogen Sulphide, or H<sub>2</sub>S, is a colourless, highly flammable and highly toxic gas, which is a common by-product found in many different industries. Accumulating in low lying areas, it may go unnoticed. In high doses, one breath can kill instantly.

This course is designed to increase your awareness of how  $H_2S$  is formed and where it can be found. It will also show how you can protect yourself from exposure and give advice about what to do if an emergency should occur in your workplace.



# COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What Hydrogen Sulphide (H<sub>2</sub>S) is
- The differences in how H<sub>2</sub>S is formed
- The places you may find H<sub>s</sub>S
- The dangers that H<sub>2</sub>S can present
- How to mitigate the risks associated with H<sub>2</sub>S





P&IDs provide an overview of where and how instruments and "control loops" interface with process piping and equipment, to provide the basis upon which the safe and efficient control and operation of a process system is maintained.

# Introduction to Instrumentation on P&IDs



### COURSE DESCRIPTION

Instrumentation, as depicted on P&IDs (Piping and Instrumentation Diagrams) are shown by the use of various symbols and lines.

P&IDs provide an overview of where and how instruments and "control loops" interface with process piping and equipment, to provide the basis upon which the safe and efficient control and operation of a process system is maintained.

# COURSE OBJECTIVES

By the end of this course you should be able to:

- Identify the symbols and lines used to depict instrumentation equipment on a P&ID
- Recognise that instrumentation components may be located both locally and remotely
- Define what is meant by a control loop
- Relate to any additional information provided on a drawing, including in the notes section

Approx. Duration: 30min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:


The International Ship and Port Facility (ISPS) Security Code is a security measure put into place by the IMO (International Maritime Organisation) as part of the Safety of Life at Sea (SOLAS) Convention. It's implementation followed the terrorist attack on the World Trade Centre on 11th September 2001, where 2996 people lost their lives.

## Introduction to International Ship and Port Security



### COURSE DESCRIPTION

The International Ship and Port Facility (ISPS) Security Code is a security measure put into place by the IMO (International Maritime Organisation) as part of the Safety of Life at Sea (SOLAS) Convention. It's implementation followed the terrorist attack on the World Trade Centre on 11th September 2001, where 2996 people lost their lives.

It was considered that threats to ports and international shipping were such that increased security measures were needed to increase protection from similar events.

This course will introduce you to the code as well as how to reduce the threats that ports and ships can be subjected to.

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### COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe why security plans are put in place by port and ship security officers
- Explain the basic requirements of the ISPS code
- Consider the various security threats that ports and vessels may be subjected to
- Relate to some of the consequences posed by threats to security at sea and in port
- Recognise the measures required to be put in place at ports and for designated ships
- Recall why access control, personal and baggage searches may be performed when entering a port or boarding a vessel

Approx. Duration: 30min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Even a small leak in a process system can lead to expensive downtime, costly damage to plant equipment and potentially devastating harm to personnel and the environment.

## **Introduction to Leak Detection**



### COURSE DESCRIPTION

Even a small leak in a process system can lead to expensive downtime, costly damage to plant equipment and potentially devastating harm to personnel and the environment.

In this course we will investigate the possible sources of leaks, introduce learners to the importance of leak testing, the methods and equipment used for leak detection and look at the potential dangers involved when working with helium and nitrogen gas.



## COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Why we carry out leak detection
- What Helium leak detection is
- Why we use Helium for detecting leaks
- How leak detection operations are carried out
- The equipment needed for a successful operation
- The dangers involved with Helium leak detection

Approx.	Duration:
50	min

Knowledge Check: Yes Exam: Yes Languages: ENG



There are over forty different species, all of which are potentially harmful to humans. Legionella can cause a range of illnesses, including the potentially fatal Legionnaires' disease.

## Legionella Awareness



### COURSE DESCRIPTION

Legionella are naturally occurring bacteria. There are over forty different species, all of which are potentially harmful to humans. Legionella can cause a range of illnesses, including the potentially fatal Legionnaires' disease.

When the bacteria enter man-made water systems, suitable conditions can encourage growth and reproduction to levels that pose a significant health risk. Understanding the conditions that encourage legionella growth, and the maintenance and monitoring procedures that can be put in place to minimise the risk, is essential to maintaining a safe water systems and protecting against infection.

## Ø

## COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What legionella are and why they are dangerous
- Where legionella bacteria can grow
- How to prevent legionella growth
- The law relating to legionella prevention

Approx.	Duration:
30	min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



The Life-Saving Rules were developed from lessons learned in our industry and are vital in protecting everyone who works for us from the risk of serious injury, to eliminate porential personal and process related incidents in the workplace.

# **Life-Saving Rules**



### COURSE DESCRIPTION

The Life-Saving Rules were developed from lessons learned in our industry and are vital in protecting everyone who works for us from the risk of serious injury, to eliminate porential personal and process related incidents in the workplace.

Our expectation is that everyone should be able to go home at the end of their working day or their rotation without having suffered or caused any harm We hope you find this short course useful and practical for keeping you safe, and remember, it's down to all of us to make sure that the Life-Saving Rules are understood and properly applied wherever we work.

## $( \mathcal{C} )$

## COURSE OBJECTIVES

## By the end of this course you should know about the following rules:

- Bypassing Safety Controls
- Confined Space
- Driving
- Energy Isolation
- Hot Work
- Line of Fire
- Safe Mechanical Lifting
- Work Authorisation
- Working at Height

Approx. Duration: 15min Knowledge Check:

Exam: No



We will look at ways to prevent behavioural factors putting us at risk and learn how to avoid accidents. Simply asking 'Am I in the line of fire?'



## Line of Fire



### COURSE DESCRIPTION

Intended to promote an awareness of the potential hazards around us, this presentation highlights Safety as Petrofac's first core value.

There are many 'line of fire' accidents every year and here we identify the three types of hazards we need to be aware of in order to stay out of the line of fire.

We will look at ways to prevent behavioural factors putting us at risk and learn how to avoid accidents. Simply asking 'Am I in the line of fire?' could prevent many incidents from taking place.



## COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Explain what being 'in the Line of Fire' means
- Describe some examples of Line of Fire hazards
- Identify the consequences of being in the Line of Fire
- Outline how to avoid being in the Line of Fire

Approx. Duration: 20min

Knowledge Check:

Exam: **No**  Languages: ENG



While there are many different types and layouts of nitrogen units, they all work on similar principles.



# **Liquid Nitrogen Pumping**



### COURSE DESCRIPTION

While there are many different types and layouts of nitrogen units, they all work on similar principles. This course is aimed at offering a general understanding of these principles and the methods involved in how to safely operate a liquid nitrogen pump.

In this course we will look at the various components of a liquid nitrogen pump and the hazards involved during its operation.

## COURSE OBJECTIVES

By the end of this course you should be able to:

- Identify the function of the nitrogen pumping components on a pump unit
- Describe the process of pumping and vaporising liquid nitrogen
- Define the importance and means of cooling and priming a pumping system
- Explain how and why heat is generated and the procedures through which it is controlled

Approx.	Duration:
40	min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Liquid nitrogen has a variety of applications in the oil, gas and petrochemical industries. However, given the correct circumstances, it can also become very volatile and pose a real threat of asphyxiation.

## Liquid Nitrogen Storage Modules 1-2



### COURSE DESCRIPTION

Liquid nitrogen has a variety of applications in the oil, gas and petrochemical industries. However, given the correct circumstances, it can also become very volatile and pose a real threat of asphyxiation. It is essential, therefore, to make sure that we store and transport nitrogen correctly.

In this module we will look at some of the hazards and risks associated with nitrogen, and learn about the construction and components of the cryogenic tanks that make the safe storage and use of nitrogen possible.

## COURSE OBJECTIVES

By the end of this course you should be able to:

- Define some of the properties of liquid nitrogen
- Explain how a cryogenic tank is constructed
- Identify various components of a cryogenic tank
- Identify the various components of a nitrogen tank and their function
- Describe how a cryogenic liquid behaves in storage, under transfer and operational conditions

Approx. Duration: 60min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



## **Lithium Batteries Awareness**



### COURSE DESCRIPTION

Found in everyday devices such as mobile phones, laptops, watches, cameras, children's toys, power tools and vehicles; lithium batteries are also widely used in commerce and even the aerospace industry to provide a source of power for equipment.

They can also be found in downhole equipment used in the oil and gas industry.

This course will cover the different types of lithium battery, their potential hazards as well as the regulations involved with their shipping and disposal.



### COURSE OBJECTIVES

- Describe the different types of lithium battery
- Identify the potential hazards of lithium batteries
- Outline some packing and shipping regulations
- Explain how to store and dispose of lithium batteries

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
30min	<b>Yes</b>	<b>Yes</b>	ENG	<b>1</b>

<sup>^</sup>81



The ability to process natural gas into a liquid enables it to be shipped over long distances in Liquefied Natural Gas, or LNG, form.

## LNG Suite Modules 1-11



### COURSE DESCRIPTION

Gas deposits are often relatively easy and costeffective to access. However, the location may be a significant distance from a suitable mass market, therefore the ability to process natural gas into a liquid enables it to be shipped over long distances in Liquefied Natural Gas, or LNG, form.

In this course we follow the LNG supply chain, from well, through the liquefaction facility and shipping, to the receiving terminal where it is regasified and sent into a pipeline network. We will look at these facilities in detail and consider the advantages of floating processing platforms.

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## COURSE OBJECTIVES

### By the end of this course you should be able to:

- Describe how remote gas discoveries can be exploited economically
- Identify the basic functions of the facilities that make up the LNG supply chain
- Explain the purpose of LNG carriers
- Describe the advantages of using floating LNG facilities

Approx. Duration: 220min

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



We follow the LNG supply chain, from well, through the liquefaction facility and shipping, to the receiving terminal where it is regasified and sent into a pipeline network.



## **Introduction to LNG Facilities** Module 1



### COURSE DESCRIPTION

Gas deposits are often relatively easy and costeffective to access. However, the location may be a significant distance from a suitable mass market. A pipeline can be expensive and difficult to construct, therefore the ability to process natural gas into a liquid enables it to be shipped over long distances in Liquefied Natural Gas, or LNG, form.

In this course we follow the LNG supply chain, from well, through the liquefaction facility and shipping, to the receiving terminal where it is regasified and sent into a pipeline network. We will look at these facilities in detail and consider the advantages of floating processing platforms.

## COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe how remote gas discoveries can be exploited economically
- Identify the basic functions of the facilities used in the LNG supply chain
- Explain the purpose of LNG carriers
- Describe the advantages of using floating LNG facilities

Approx. Duration: 20min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Designed to raise awareness of the dangers that liquefied natural gas can pose. You will learn about the properties of LNG, the hazards associated with LNG.



## **LNG Safety Awareness** Module 2



### COURSE DESCRIPTION

LNG is natural gas which has been changed into a colourless, non-toxic and non-corrosive liquid by a special refrigeration and compression process.

LNG is returned to its natural gaseous state by warming to ambient temperature so that it can be piped to industrial and domestic premises for use as a fuel for heating and cooking purposes. It is possible that the gas supplied to your own home could have been LNG at some stage.

This course is designed to raise awareness of the dangers that liquefied natural gas can pose. You will learn about the properties of LNG, the hazards associated with LNG, handling precautions, waste management and details of the LNG Safety Data Sheet.

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## COURSE OBJECTIVES

By the end of this course you should be able to:

- Explain the properties of LNG and its ultimate uses
- Recognise the relationship of temperature between LNG and Methane Gas
- Identify some of the hazards associated with LNG
- Describe some precautions to be considered when working with or near LNG
- Identify the key information contained in a Safety Data Sheet
- Explain how to determine what PPE may be required when working with LNG

Approx. Duration: 20min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



This course is designed to show details of the Field Gathering and Export facility, and provide an overview of the gas treatment, sweetening and drying processes.

# **Field Gathering and Export** Module 3



### COURSE DESCRIPTION

Field processing treatment facilities will typically provide for separation, drying and purification and will mirror some of those found in the inlet processing facilities at the LNG liquefaction terminal.

This course is designed to show details of the Field Gathering and Export facility, and provide an overview of the gas treatment, sweetening and drying processes.

In this course we will also look at the common types of equipment used within the system.

## Cou

## COURSE OBJECTIVES

By the end of this course you should be able to:

- Explain how gas flows through a gathering facility
- Identify the major components used in the process
- Describe some of the treatment processes found on a facility

Approx. Duration:	Knowledge Check:	
20min	Yes	

Exam: **Yes**  Languages: ENG



An introduction to Gas Inlet Treatment, providing a detailed system overview.



## Gas Inlet Treatment Module 4



### COURSE DESCRIPTION

Gas arrives from the field processing facilities by pipeline where it undergoes initial separation to remove condensate and any remaining free water. The gas is metered and may then be heated and compressed before entering the gas treatment facilities.

This course is designed to give you an introduction to Gas Inlet Treatment, providing a detailed system overview including heating, compression and condensate stabilisation. We will also look at the equipment used within the system.

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## COURSE OBJECTIVES

By the end of this course you should be able to:

- Identify the process flows that pass through the facilities
- Identify some of the equipment used
- Describe the gas and liquid separation processes
- Describe the gas booster compression system processes

Approx. Duration:Knowledge Check:Exam:Languages:20minYesYesENG

Modules: 1



### Produced gas from a well is sometimes called "Sour Gas", as it will often contain Hydrogen Sulphide and Carbon Dioxide.

## **Acid Gas Removal** Module 5



### COURSE DESCRIPTION

Produced gas from a well is sometimes called "Sour Gas", as it will often contain Hydrogen Sulphide and Carbon Dioxide. These elements are acidic and are known as "Acid Gases". They can cause serious corrosion, embrittlement, freezing and blockage problems in process equipment and lines.

This course is designed to give you an overview of the acid gas removal system, the absorber and the regeneration sections. We will also look in detail at the equipment used within the system.

## COURSE OBJECTIVES

- Identify where acid gas removal takes place on a facility
- List the equipment used in a typical amine system
- Explain the equipment used in a typical amine system
- Explain the function of system components
- Describe the gas removal process





Two commonly used methods of gas dehydration, the glycol dehydration unit and the molecular sieve desiccant dryer system.



## **Dehydration** Module 6



### COURSE DESCRIPTION

Gas that leaves the acid gas removal unit is referred to as 'sweet gas", meaning that it is free of acid gasses, however the gas is still wet, and needs drying. The Dehydration Unit removes water to prevent ice and hydrate formation in the liquefaction Unit, which could otherwise cause the blockage of lines and equipment.

This course is designed to give you an overview of the two commonly used methods of gas dehydration, the glycol dehydration unit and the molecular sieve desiccant dryer system. The course will also look at the common equipment used in these systems.  $(\mathcal{C})$ 

## COURSE OBJECTIVES

- Explain the different methods used for gas dehydration
- Identify key equipment used in gas dehydration systems
- Describe the processes used for molecular sieve type gas dehydration

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
20min	<b>Yes</b>	<b>Yes</b>	ENG	1



Metallic mercury is found in most hydrocarbon producing reservoirs and must be removed in the process system.

## **Mercury Removal** Module 7



### **COURSE DESCRIPTION**

Metallic mercury is found in most hydrocarbon producing reservoirs and must be removed in the process system. The mercury removal unit is often located downstream of a mol. sieve dehydration unit, and is also able to remove mercury recovered from the knock out drum during the regeneration cycle.

In this course we will describe the two types of mercury removal methods and processes that use either regenerative or non-regenerative adsorbents. We will also look at the common types of equipment found in those systems.



## **COURSE OBJECTIVES**

By the end of this course you should be able to:

- Explain the importance of removing mercury from process gas on an LNG plant
- Identify the different methods of mercury removal
- Describe the process of mercury removal
- Identify the major items of equipment used in mercury removal

Approx.	Duration:
20	min

Knowledge Check: Yes

Exam: Yes

Languages: ENG

Modules: 1



Following initial gas treatment, gas is fed forward for ultimate liquefaction into LNG.



## Liquefaction, Fractionation and Refrigeration Module 8



### COURSE DESCRIPTION

Following initial gas treatment, gas is fed forward for ultimate liquefaction into LNG. The gas stream still contains a number of different hydrocarbon components at this point which are then subjected to lower temperatures to separate them out to provide refrigerants for the liquefaction of methane into LNG.

This course will provide an overview of the system and take a look at the compressors, expanders, condensers, heat exchangers and other equipment involved in the liquefaction process



## COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe the roles of liquefaction and fractionation in an LNG plant
- Identify some of the components used in liquefaction and fractionation
- Describe some of the processes used in liquefaction and fractionation
- Explain the importance of the transfer of heat energy in an LNG plant

Approx.	Duration:
20	min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:

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### condensate processing systems including, Fractionation, Short cycle dry desiccant adsorption, a "lean oil" absorption process.

## LNG Condensate, NGL, Recovery and Export Module 9



### COURSE DESCRIPTION

Condensates are liquids which are separated out at one or more points in the production and processing systems. Bulk condensate separation and recovery will typically be performed at field gathering and processing locations and gas plant feed inlet reception facilities.

This module will look at some of the condensate processing systems including, Fractionation, Short cycle dry desiccant adsorption, a "lean oil" absorption process, and low temperature methods, including Joule Thomson distillation. This module will also cover the common types of equipment used in these systems, such as JT Valves, Turbo Expanders, Molecular Sieve, Heaters, Reboilers and Seperators.



## COURSE OBJECTIVES

- Identify with the need for recovering condensate and natural gas liquids (NGLs)
- Describe the processes used in condensate and NGL recovery
- Define the specific NGLs
- Describe the function of equipment used for liquid recovery

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
20min	<b>Yes</b>	<b>Yes</b>	ENG	<b>1</b>



Maintaining LNG in storage requires the use of insulated tanks and lines, pumps and compressors.



## **LNG Storage and Loading** Module 10



### COURSE DESCRIPTION

Following liquefaction, LNG is sent into storage to await shipment, usually by sea. Maintaining LNG in storage requires the use of insulated tanks and lines, pumps and compressors. Loading facilities are fed by lines routed to a jetty, where loading arms are used to make the final connection to an LNG carrier.

This course will show how LNG passes from the liquefaction system into storage, and look at the process equipment used, such as loading lines, loading arms, coolers and boil off gas compressors. We will also discuss storage tanks and pumps.



## COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe the role performed by safety disconnects and pressure relief valves
- Identify the major items of equipment used in LNG storage and loading
- Explain the basic process of loading LNG from storage to cargo vessels
- Describe how temperatures are maintained in storage and loading systems

Approx.	Duration:
20	min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



### How the receiving regasification terminal vaporises the LNG and measures the gas quality and volume.

## LNG Offloading and Regasification Module 11



### COURSE DESCRIPTION

In this module we will learn how LNG is transported from the liquefaction terminal to a regasification terminal, a journey which can easily extend over several thousand miles.

During the voyage, LNG is kept at optimum conditions in the carrier's tanks, so it is ready for transfer upon arrival. We will describe how the receiving regasification terminal vaporises the LNG and measures the gas quality and volume.

This module will also look at the process equipment used, such as Storage Tanks, Booster Pumps, Gas Metering and Submerged Combustion Vaporisers.



## COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe how LNG is pumped from storage into a regasification vaporiser
- Identify the main components of a regasification terminal
- Describe how gas quality and volume are measured
- Identify the different means used to vaporise LNG into a gas

Approx. Duration: 20min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



## Lock-Out Tag-Out Awareness



### COURSE DESCRIPTION

Our Lock-Out/Tag-Out course is designed to provide learners with a general overview of how process systems, machinery and electrical equipment should be safely shut off and rendered inoperable, while maintenance or servicing work is taking place.

Lock-Out/Tag-Out procedures are typically part of a much larger system of occupational safety and health standards and general environmental controls, which are designed to make the workplace as safe as possible.

## COURSE OBJECTIVES

- Describe what a 'Lock-Out/ Tag-Out' system is
- Explain how to control energy release with a Lock-Out/Tag-Out system
- Recognise the importance of correct Lock-Out/Tag-Out procedures
- Identify who is authorised to operate Lock-Out/Tag-Out systems

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
<b>30min</b>	<b>Yes</b>	<b>Yes</b>	ENG	1



Injuries and dangerous occurrences arising from lifting operations account for almost 20% of incidents offshore every year.

## Introduction to LOLER



### **COURSE DESCRIPTION**

Lifting operations are an everyday task in the energy industry, with a multitude of supplies and materials being transferred on and off various facilities and vessels. Lifting and mechanical handling operations can pose a major hazard if a load is handled improperly. Injuries and dangerous occurrences arising from lifting operations account for almost 20% of incidents offshore every year.

This course will help you to identify the risks involved in lifting operations and the steps you can take to reduce these risks and prevent harm to personnel and damage to equipment.



### **COURSE OBJECTIVES**

The aim of this course is to teach you about the following subjects:

- What Lifting Operations and Lifting **Equipment Regulations, LOLER,** are and why they are important
- Who LOLER affects
- The need for proper planning
- The equipment used for lifting
- The importance of inspections

Approx. Duration: 45min

Knowledge Check: Yes

Exam: Yes

Languages: ENG

Modules:



Accidents don't just have cost implications for business but can also create personal tragedy.



## Loss Adjuster



### COURSE DESCRIPTION

Accidents don't just have cost implications for business but can also create personal tragedy.

This presentation looks at one man's struggle to reconcile his professional attitude to accidents, as a loss adjuster for an insurance company, with the personal consequences of the incidents he investigates.

## Ø

## COURSE OBJECTIVES

- Consider the different ways in which
   accidents affect businesses and individuals
- Consider the ways in which accidents are caused and how they can be predicted
- Consider how understanding the causes of accidents can help to prevent them in future





Malaria is a serious tropical disease spread by the bite of certain mosquitoes and it affects around thirty thousand international travellers every year. If it is not diagnosed and treated promptly, it can be fatal.

## Malaria Awareness



### COURSE DESCRIPTION

Malaria is a serious tropical disease spread by the bite of certain mosquitoes and it affects around thirty thousand international travellers every year. If it is not diagnosed and treated promptly, it can be fatal.

The aim of this course is to provide you with an overview of the different types of Malaria and where they are present, how to reduce your chances of becoming infected and, if the worst case scenario should happen, what to do in the event that you suspect you may be infected.

## ()

## COURSE OBJECTIVES

- Explain what Malaria is
- Recommend how to minimize the risk of infection
- Recognize the symptoms to look out for
- Describe how Malaria is treated





This module is intended to provide an overview of some of the considerations that should be given to ensure safety during manriding operations, and the associated hoists, winches and lifting equipment typically used within the oil and gas drilling industry.

## **Introduction to Manriding**



### COURSE DESCRIPTION

This module is intended to provide an overview of some of the considerations that should be given to ensure safety during manriding operations, and the associated hoists, winches and lifting equipment typically used within the oil and gas drilling industry.

For clarity, a definition of manriding is "the raising/ lowering of a person using a certified manriding winch, with the person wearing an approved full body harness that is, in turn, directly connected to the winch".



## COURSE OBJECTIVES

- Define manriding operations and what they entail
- Relate to the seriousness of historical incidents
- List some of the legislation and guidance in existence relating to manriding activities
- Consider the importance of performing risk assessments and following a safe system of work
- Define some of the control measures used to help safeguard manriding activities
- Recognise potential hazards involved with manriding
- Identify the effects of suspension trauma
- State the procedural requirements for emergency response and rescue contingencies
- List some fo the features of a manriding winch or hoise
- Relate to how a harness must be correctly sized and properly utilised
- Recall the signals used in manriding activities

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
30min	Yes	Yes	ENG	1



20% of all offshore accidents and injuries are a result of manual handling activities, making them a major source of lost time.

# **Manual Handling**



### COURSE DESCRIPTION

We can define manual handling as 'the transportation or supporting of a load by hand or by bodily force'. Surprisingly, it is not dramatic accidents that cause most lost time incidents on and offshore, but strains and sprains caused by relatively straightforward activities. 20% of all offshore accidents and injuries are a result of manual handling activities, making them a major source of lost time.

This course will provide you with some national statistics about manual handling, show you what can happen if you don't perform it correctly, and give you some constructive advice to help you with manual handling activities in the workplace.



### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Manual handling and the laws and regulations
- The importance of awareness
- Avoiding injury
- Lifting correctly
- Assessing lifting operations

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35min				

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



A valve is a device that stops or starts the flow of a fluid, or changes the direction or rate and they are crucial to maintaining pressure integrity. They do this by adjusting components contained within them.

# **Manually Operated Valves**



### COURSE DESCRIPTION

A valve is a device that stops or starts the flow of a fluid, or changes the direction or rate and they are crucial to maintaining pressure integrity. They do this by adjusting components contained within them.

Valves play an important role in our everyday lives. They are used in our home heating systems that help keep us warm. They provide us with a reliable supply of fresh water, and they keep us secure in building complexes with fire water systems installed.

In the oil and gas industry, they also provide the means for safe and controlled operations.



## COURSE OBJECTIVES

By the end of this course you should be able to:

- Recognise isolation valve components
- Recognise regulating valve components
- Explain isolation valve functions
- Explain regulating valve functions
- Describe gate, ball and plug valves
- Describe butterfly and globe valves
- Describe diaphragm and needle valves
- Explain the operation of these valves
- Recognise the hazards of stored energy
- Recognise the hazards of trapped pressure
- Describe correct body positions
   when operating valves

Approx. Duration: Knowledge Check: 30min Yes

Exam: **Yes**  Languages: ENG Modules:



Marine Debris poses very significant threats to wildlife, it causes costly delays and repairs for recreational boating interests, detracts from the aesthetic quality of recreational shore fronts and increases the cost of beach and park maintenance.

## **Marine Debris Awareness**



### COURSE DESCRIPTION

Marine Debris is classified as any object or fragment of wood, metal, glass, rubber, plastic, cloth, paper or any other man-made item or material that is lost or discarded in the marine environment.

Marine Debris poses very significant threats to wildlife, it causes costly delays and repairs for recreational boating interests, detracts from the aesthetic quality of recreational shore fronts and increases the cost of beach and park maintenance.

This course is designed to help you understand what constitutes marine debris, the consequences it has to marine life, how it affects the environment and the preventative measures we can take to help eliminate marine debris.

## Ø

### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What constitutes marine debris
- The legislative requirements regarding marine debris
- The sources and common types of debris generated by the oil and gas industry
- The consequences to marine life and environmental impacts of marine debris
- The preventative measures to be taken to help eliminate marine debris

Approx. Duration:	Knowledge Check:	Exam:	Languages:	
15min	Yes	Yes	ENG	
	100	100	ENG	

Modules:



In the Oil and Gas industry, Pipes, Valves, Flanges and Hoses are essential for moving dangerous liquids and gases around safely.

## Introduction to Mechanical Isolations Modules 1-2



### COURSE DESCRIPTION

In the Oil and Gas industry, Pipes, Valves, Flanges and Hoses are essential for moving dangerous liquids and gases around safely. In order for a high level of safety to be achieved, these system components are subjected to regular maintenance and remedial work; but how can you protect workers from the potentially harmful contents while work is being carried out?

In this course, we will look at the essential role that mechanical isolations play in securing a process system when a break in containment is required. We will also look at the different roles that are involved with making sure that every isolation is carried out correctly and not removed before work is complete. Finally we will investigate the different types of isolation and the means by which you can test the integrity of each.

## COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What Mechanical Isolations are
- Who is responsible for carrying them out
- The equipment required for completing an isolation
- What positive isolation is and how it is carried out
- Why the security of isolated components is so important
- How Mechanical Isolations are implemented
- De-isolation and reinstatement
  procedures for isolated systems

Approx. Duration: 65min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Mercury is a neurotoxin and if the human body is exposed to it over a prolonged period, the neurological damage it does is irreversible.

## **Mercury Awareness**



### COURSE DESCRIPTION

Mercury is a naturally occurring heavy metal found in rocks, coal, soil, crude oil and natural gas. It is also present in the air in vapour form. Mercury is a neurotoxin and if the human body is exposed to it over a prolonged period, the neurological damage it does is irreversible.

This course is designed to raise awareness of the dangers mercury can pose. You will learn what mercury is and where it can be found, what results from exposure to mercury, the most common cause of exposure, the dangers of mercury in oil and gas processing and how to stay safe in the workplace.

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### COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe what mercury is
- Identify where mercury can be found
- Describe how mercury exposure can occur
- Outline the effects of exposure to mercury
- Recognise how mercury can
   affect process equipment
- List the precautions required when working with mercury
- Describe the essential PPE when working with mercury
- State where to find information on working with mercury
- Describe what actions to take if exposed to mercury

Approx. Duration:Knowledge Check:Exam:Languages:Modules:35minYesYesENG1



Measuring the flow of fluids and gases plays a significant role in oil and gas operations.

## **Introduction to Metering**



### COURSE DESCRIPTION

Measuring the flow of fluids and gases plays a significant role in oil and gas operations. Many types of flow meters are used and an overview of some will be provided in this course.

We will look at accuracy, uncertainty and repeatability in metering, and the importance of metering accuracy for custody transfer purposes.

We will also learn that when selecting a suitable flow meter for a given application, accuracy and performance requirements must be taken into account along with anticipated fluid or gas properties.

## COURSE OBJECTIVES

By the end of this course you should be able to:

- Explain what metering is
- Demonstrate why we meter within the oil and gas industry
- Identify common types of meters and the principles of their operation
- Appreciate the importance of metering accuracy

Approx.	Duration:			
45min				

Knowledge Check: Yes Exam: Yes Languages: ENG



At ambient temperature and atmospheric pressure, methanol is a clear, colourless, flammable and toxic liquid. It has a slight alcohol odour, and can easily mix with most organic solvents.

# **Methanol Awareness**



### COURSE DESCRIPTION

At ambient temperature and atmospheric pressure, methanol is a clear, colourless, flammable and toxic liquid. It has a slight alcohol odour, and can easily mix with most organic solvents.

This course will provide an awareness of the dangers of methanol, you will learn about its main properties, the contents of the Safety Data Sheet, the first aid measures and PPE to be considered when handling methanol, fire and leak detection and environmental precautions, and we will look at safe storage and distribution.



## COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe the characteristics of methanol
- Consult a Safety Data Sheet to identify the hazards associated with methanol
- Describe the procedures that should be followed in the event of a methanol related emergency
- Identify the Personal Protective Equipment that should be used when working with methanol
- Describe how methanol can be stored and distributed safely

Approx. Duration: 30min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Apart from the penetrating ability of Gamma radiation, the primary hazard is through inhalation or ingestion and long term exposure to NORM can include a higher risk of cancer.

## Naturally Occurring Radioactive Material



### COURSE DESCRIPTION

'NORM', or 'Naturally Occurring Radioactive Material' is an inevitable component in oil and gas production, and may appear as scale in pipes and tanks, or as Carbonate and Sulphate deposits. Apart from the penetrating ability of Gamma radiation, the primary hazard is through inhalation or ingestion and long term exposure to NORM can include a higher risk of cancer. Because of this, it is essential to follow specific and detailed procedures in order to restrict exposure to lonising Radiation.

This course will help you to identify different types of radiation and describe ways to protect yourself from it. We will also look at relevant legislation and waste management.

## (C)

## COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Identifying what radiation is and how it can affect us
- Recognising that there are different types of radiation
- Protecting yourself from the effects of exposure to radiation
- Legislation, monitoring and record keeping
- Radioactive waste management

Approx.	Duration			
45min				

Knowledge Check: Yes Exam: Yes



Given the correct circumstances Nitrogen can become very volatile and pose a real threat of asphyxiation.

## **Introduction to Nitrogen Safety**



### COURSE DESCRIPTION

Nitrogen is all around us. We breathe it in and out every day with no real threat to our health and safety. Given the correct circumstances Nitrogen can become very volatile and pose a real threat of asphyxiation. The aim of this course is to highlight some of these hazards and the risks associated with them.



### COURSE OBJECTIVES

- What Nitrogen is
- Everyday Nitrogen uses
- Nitrogen delivery
- Nitrogen related dangers

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
25min	<b>Yes</b>	<b>Yes</b>	ENG	1



If you work in a noisy environment, your employer has a legal duty to provide you with adequate hearing protection.

## **Noise Awareness**



### COURSE DESCRIPTION

With noise pollution increasing, protecting our hearing is something we all need to be aware of. It is impossible to avoid all noise; and who doesn't like to listen to music, drive fast cars, watch movies and be part of sporting crowds. However, these are your own choices in your own free time. If you work in a noisy environment, however, your employer has a legal duty to provide you with adequate hearing protection.

This course will look at what employers must do with regards to noise reduction and what employees can do to preserve their hearing. Hearing loss caused by noise at work is preventable, but once your hearing has gone, it will never come back!

## COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The rules and regulations governing noise at work
- How to assess the noise levels at your workplace
- What effect these sounds can have on your health
- How to control and reduce the noise levels
- Hearing protection

Approx. Duration: **35min** 

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



Once extracted, crude oil is refined into a large number of consumer products, from petrol and kerosene to asphalt and chemical reagents used to make plastics and pharmaceuticals.

## Introduction to Oil and Gas Suite Modules 1-11



### COURSE DESCRIPTION

Named from the Greek for 'rock' and 'oil', 'Petroleum' or 'Crude Oil' is a naturally occurring, flammable liquid, that is found in geological formations thousands of feet below the Earth's surface.

Once extracted, crude oil is refined into a large number of consumer products, from petrol and kerosene to asphalt and chemical reagents used to make plastics and pharmaceuticals.

While this short course can only cover a fraction of the history of oil and gas, we will try and uncover some of the most significant and interesting events, from its early use as medicine and building materials to the modern day.



## COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The origins of the oil industry
- Geology and its importance to the petroleum industry
- Hydrocarbon formation and storage
- The major components of the drilling rig
- How Casing and Cementing of the well is carried out
- The methods used to evaluate a well
- How well completions provide the means to produce the hydrocarbons to surface
- The manner of various transportation methods
- The reasons for, and methods of, directional drilling

Approx. Duration: **360min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:


While this short course can only cover a fraction of the history of oil and gas, we will try and uncover some of the most significant and interesting events.

### History



#### COURSE DESCRIPTION

Named from the Greek for 'rock' and 'oil', 'Petroleum' or 'Crude Oil' is a naturally occurring, flammable liquid, that is found in geological formations thousands of feet below the Earth's surface.

Once extracted, crude oil is refined into a large number of consumer products, from petrol and kerosene to asphalt and chemical reagents used to make plastics and pharmaceuticals.

While this short course can only cover a fraction of the history of oil and gas, we will try and uncover some of the most significant and interesting events, from its early use as medicine and building materials to the modern day.



#### COURSE OBJECTIVES

#### By the end of this course you should be able to:

- The early uses of crude oil
- The origins of the oil industry
- How the oil industry grew and developed
- Some of the major accidents that have occurred
- How technology has pushed the industry forward
- What the future has in store for the industry

Approx. Duration: 35min Knowledge Check: Yes Exam: Yes Languages: ENG



Identify the different rig types and their capabilities and look at how rigs have evolved and how technology has advanced over time.



### **Rig and Installations**



#### COURSE DESCRIPTION

When seismic surveys indicate the possibility of hydrocarbons, it's time to bring in the drilling rig. Be it on land or offshore – it must be the right rig for the job. Although there are many types of oil and gas rigs, they all include a package of specialist drilling equipment and carry out the same basic drilling operations.

This course will help you identify the different rig types and their capabilities and look at how rigs have evolved and how technology has advanced over time. You will also learn about the jobs and the people required to ensure safe and successful rig operations.

### COURSE OBJECTIVES

- Rig types and capabilities
- Drilling rig equipment and how it has improved
- The people required to drill a well

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
30min	Yes	Yes	ENG	1



Offshore drilling has always been considered more hazardous and more expensive than onshore drilling, requiring a different mind-set.

## Offshore

#### COURSE DESCRIPTION

The exploration for oil and gas offshore only began in earnest in the 1940s and 50s, but since that time offshore engineering has created many industries in towns and cities around the world.

Offshore drilling presents vast technological challenges. From the first converted barges used to drill in shallow lakes, to high tech deep water drill ships.

Offshore drilling has always been considered more hazardous and more expensive than onshore drilling, requiring a different mind-set to address the extremely harsh environments, the logistical challenges, the technological requirements and most importantly, the protection of people and assets.

### COURSE OBJECTIVES

- The logistics
- The technological challenges faced
- Production considerations
- The increased hazards and safety considerations
- The cost implications

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
30min	Yes	Yes	ENG	1



This module will explain why an understanding of geology is so important to the oil and gas industry.

# Geology and Hydrocarbon Formation



#### COURSE DESCRIPTION

The term 'Geology' is derived from the Greek words for 'Earth' and 'Study', and this module will explain why an understanding of geology is so important to the oil and gas industry. It will help you to identify the different types of rock, and rock formations, that may contain hydrocarbons.

Our planet is around 4.6 billion years old, and this module will provide a brief history of the Earth, and show you how, over millions of years, the Earth has been shaped and hydrocarbons have formed.



### COURSE OBJECTIVES

- Geology and its importance to the petroleum industry
- Geological timescales
- Rocks and their formation
- Hydrocarbon formation and storage
- Hydrocarbon exploration and discovery

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
<b>50min</b>	<b>Yes</b>	<b>Yes</b>	ENG	1



Our drilling course is designed to provide learners with a general overview of the equipment and methods utilised to successfully drill a well.



### **Drilling** Modules 1-2



#### COURSE DESCRIPTION

Our drilling course is designed to provide learners with a general overview of the equipment and methods utilised to successfully drill a well.

Subjects covered include drilling rig components and their functions, the composition of a typical drill string, the role of mud in the drilling operation, the importance of properly casing and cementing the wellbore, the different forms of Well Control and the actual techniques used for drilling the well.

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### COURSE OBJECTIVES

By the end of this course you should be able to:

- The major components of the drilling rig
- The different components that make up the Drill String
- The role of the Mud System
- How Casing and Cementing of the well is carried out
- Different methods of well control
- The all important drilling operation itself

Approx. Duration:Knowledge Check:Exam:Languages:Modules:60minYesYesENG2



### **Evaluation**



#### COURSE DESCRIPTION

Evaluation of a well is performed after we have collected data from numerous sources while drilling or at the end of drilling when the well has entered the reservoir.

Data capture or 'Logging', as it is more commonly termed, gathers data from numerous activities and stages in the well so that its producing capabilities can be estimated and can be used to improve drilling and production performance in subsequent wells. Ø

#### COURSE OBJECTIVES

- The methods used to evaluate a well
- The type of data gathered and how we use that data
- The different stages in a well and reservoir
- When evaluation is required





Once a probable location of a reservoir has been found and an exploration well drilled and tested, we will be able to tell if the reservoir could produce hydrocarbons



### Completions



#### COURSE DESCRIPTION

Once a probable location of a reservoir has been found and an exploration well drilled and tested, we will be able to tell if the reservoir could produce hydrocarbons at an economic rate and if it contains a considerable amount for future production. Basically, the testing proves that the field is economically viable and worth investing the millions of dollars required to install a production facility, drill and complete new wells.

A production facility, which can range from a massive offshore structure to a simple onshore pipeline, would need to be built before we could go ahead and drill production wells and complete them. This module looks at the completion process.

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### COURSE OBJECTIVES

#### By the end of this course you should be able to:

- How well completions provide the means to produce the hydrocarbons to surface
- How reservoir and mechanical considerations govern completion design
- The various different completion designs that may be utilised
- The components that must be incorporated into the design to optimise production in a safe manner

Approx. Duration: 40min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



This module will look at how everyday products such as gasoline and diesel are produced from raw and natural oil and gas.



### **Production** Modules 1-2



#### COURSE DESCRIPTION

Production processes will vary from facility to facility. Some small onshore fields are serviced only with a simple pipeline yet some major offshore installations include gas dehydration, oil storage, gas recompression, water injection and more.

The collection and processing of hydrocarbons is a very complex and varied subject. This module will look at how everyday products such as gasoline and diesel are produced from raw and natural oil and gas.

As well as chapters on facilities, transportation and refining, you will also discover, with help from an interactive Process System animation, how gas, oil and water are cleanly separated directly from a well.



### COURSE OBJECTIVES

- What makes up a production field and facility
- How oil and gas are separated within a process system
- The manner of various transportation methods
- How different substances are made from hydrocarbons

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
50min	<b>Yes</b>	<b>Yes</b>	ENG	2



Influenced by both cost and safety, new and innovative equipment and techniques to extract oil and gas have been developed.

### Advanced Techniques and Intervention



#### COURSE DESCRIPTION

We know that technology has played a major role in the exploration for hydrocarbons. Influenced by both cost and safety, new and innovative equipment and techniques to extract oil and gas have been developed, and we will look at just a few of these in this course.

Here we will explain the reasons for, and the methods of, directional drilling, how and why we might choose to drill with an underbalanced wellbore, and take a look at some of the more common means of well intervention, such as Cased Hole Logging, Slickline and Coiled Tubing.

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### COURSE OBJECTIVES

By the end of this course you should be able to:

- The reasons for, and methods of, directional drilling
- How and why we might choose to drill with an underbalanced wellbore
- Some of the more common means of well intervention

Approx. Duration:		
40min		

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules: 1



Once extracted, crude oil is refined into a large number of consumer products, from petrol and kerosene to asphalt and chemical reagents used to make plastics and pharmaceuticals.

### Introduction to Oily Discharges and Releases to Sea



#### COURSE DESCRIPTION

Welcome to this introduction to oily discharges and releases to sea eLearning module, which is intended to provide an insight into the legislation and obligations relating to oil discharges from offshore installations and the potential impacts that result on the marine ecosystem and the environment generally.



By the end of this course you should be able to:

- Relate to the legislative controls and requirements for oily discharges
- Explain the difference between planned operational discharges and accidental releases
- Consider the environmental impacts associated with oily discharges
- Identify types and sources of planned oily discharges to sea
- Explain what is meant by 'produced water' and describe how it is handled

Approx. Duration: 40min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



In the event of a pollution incident, offshore response personnel are responsible for implementing the Tier 1, or local, response.

### **OPEP Training Level 1 Offshore On-Scene Commander**



COURSE DESCRIPTION

In the event of a pollution incident, offshore response personnel are responsible for implementing the Tier 1, or local, response.

This course is designed to guide the On-Scene Commander and other personnel who have pollution response duties through their responsibilities. It will focus on the implementation of the response in alignment with the Operator's Oil Pollution Emergency Plan, or OPEP, whilst explaining the theory behind the required actions to reinforce knowledge and understanding.

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#### COURSE OBJECTIVES

This module will cover the background information necessary to understand the oil spill response legislative framework with regards to UK offshore oil and gas operations.

Approx. Duration: 90min

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



Without a regulated Permit to Work procedure, personnel, plant and the environment could be put at extreme risk.



### **Permit to Work Systems**



#### COURSE DESCRIPTION

Without a regulated Permit to Work procedure, personnel, plant and the environment could be put at extreme risk.

This course will look into what a Permit to Work is, the various types of permits available and how they are implemented within industry situations. The individual's responsibilities and their training requirements within a Permit to Work system are also discussed, as well as the importance of work planning.

### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What a Permit to Work is and what types there are
- Your responsibilities when working under a permit
- The importance of proper work planning and risk assessment
- The essential components of a successful Permit to Work
- The need for training in Permit to Work systems

Approx. Duration: **35min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



If a hazard cannot be eliminated or avoided, then PPE is your last line of defence against potential harm.

### Introduction to Personal Protective Equipment



#### COURSE DESCRIPTION

The term 'Personal Protective Equipment' covers all equipment which is intended to be worn or held by a person at work and which protects them against risks to their health and safety.

If a hazard cannot be eliminated or avoided, then PPE is your last line of defence against potential harm.

Regulations state that your employer must provide appropriate PPE, and training on how to use it safely.

This course helps to provide that training, we take you through the various types of PPE available, learn how to choose the correct protection, how to look after your PPE and check it for faults and highlight individual responsibilities within the workplace.

### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The legal considerations of Personal Protective Equipment (PPE)
- The various different types and purposes of PPE
- How to select the appropriate equipment and check it for faults
- What do to with faulty equipment

Languages: ENG

Approx. Duration:	Knowledge Check:	Exam:	
35min	Yes	Yes	

Modules:



There are many hazards associated with pigging operations that can cause injury to personnel and damage to equipment and the environment.

# Introduction to Pigs and Pigging



#### COURSE DESCRIPTION

Although primarily used to clean pipelines, there are a wide range of pigs available for a variety of pigging operations. This course will show you some of the pigs available for these tasks, and will explore their different designs and functions. We will also run through a basic pigging operation, from the loading and launching, the various tracking methods used, through to the safe receiving and unloading of the pig.

There are many hazards associated with pigging operations that can cause injury to personnel and damage to equipment and the environment. We will look at these hazards and learn how to mitigate the risks.

### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Why the process of pigs and pigging is essential
- The various types of pig and their specific uses
- The equipment used in pigging
- Hazards and specific PPE requirements

Approx.	Duration:
60	min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



You will also explore the calculations required for working out pump flow rates and chemical injection rates and quantities.

## **Pipeline Filling Calculations**



#### COURSE DESCRIPTION

An interactive course to teach you the basics of calculating a pipeline's face area and volume. You will also explore the calculations required for working out pump flow rates and chemical injection rates and quantities.

This course will also cover both the importance of rounding during the calculations, and the importance of accurate conversions between units.



### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- How to calculate pipeline volumes
- How to convert numbers
- The effects of rounding
- How to calculate water volumes
- How to calculate pump flow rates
- Calculating chemical volumes
- Chemical injection rates





We test pipelines to ensure that they are strong enough to withstand the high product pressure which they will see for the duration of their working life.

### Pipeline Hydrotesting Calculations



COURSE DESCRIPTION

We test pipelines to ensure that they are strong enough to withstand the high product pressure which they will see for the duration of their working life.

We also test the integrity of the line as a whole. In this course you will learn about the different types of pipeline, what to consider when hydrotesting and how to make the calculations required for a hydrotest.



### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The different types of pipeline
- Why and how we test pipelines
- Pre-engineering calculations





Pneumatics are used every day, in all walks of life. Applications can range from creating explosions in the entertainment industry to simply bicycle pumps, car tyres or tools and equipment.

### **Introduction to Pneumatics**



#### COURSE DESCRIPTION

Pneumatics are used every day, in all walks of life. Applications can range from creating explosions in the entertainment industry to simply bicycle pumps, car tyres or tools and equipment. It is important you know the benefits, as well as the restrictions, as you will come across pneumatic systems on a daily basis.

In this course you will learn the basic theory of pneumatic systems, take an in-depth look at the components that make up a compressed air system and also consider the hazards and safety precautions associated with pneumatics.



### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The applications of pneumatics
- Pneumatic theory
- Air generation, preparation and distribution
- The operation of the components that make up the basic pneumatic system
- The graphical symbols for each component that makes up a basic pneumatic system

Approx.	Duration:	
60min		

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:

1



### **Potable Water Offshore Suite** Modules 1-3.4



COURSE DESCRIPTION

Please see details for all courses in this suite.



#### COURSE OBJECTIVES

Please see details for all courses in this suite.

Approx. Duration: 200min

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:

6



Module one provides the required awareness of potable water and Legionella in the offshore environment for personnel at all levels.

### Legionella Awareness and Introduction to Potable Water Offshore Module 1



#### COURSE DESCRIPTION

Module one provides the required awareness of potable water and Legionella in the offshore environment for personnel at all levels.

This involves, seeing how good quality potable or drinking water is provided, managed and maintained onboard offshore installations.

It is often deemed that poor quality or poorly managed potable water is the biggest Legionella hazard in the offshore working environment; these specified Legionella hazards and risk systems will be identified throughout this module.

Module one also acts as a lead-in for several more specific and detailed modules, aimed at responsible persons and key personnel.



#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Identify the importance and challenges involved in providing potable water offshore
- Describe the basic design, components and setup of a typical offshore potable water system
- Describe the basic principles of Legionella & what it is, exposure hazards, potential effects, why it is an issue offshore
- Identify the control measures used to ensure good potable water quality, along with the control of Legionella bacteria in offshore water systems

Approx. Duration: 30min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



### Quality Standards, Regulations and Compliance Module 2



#### COURSE DESCRIPTION

In this module we take a deeper look at the laws and regulations relating to Potable Water Offshore, and why we need these standards in place. We will look at the impact of poor quality and the key hazard areas that can present risks throughout the installation.

We will also take a detailed look at term 'wholesomeness' of water, including the parameters and limits of water quality testing used in the UK and beyond.

Written control schemes also form part of water quality management onboard installations, of which we will take a look at what these entail and which parties are responsible.

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#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Understand the laws relating to potable water quality and Legionella risks offshore
- Recognise the parameters used to measure potable water quality and how to confirm water is wholesome for use offshore
- Define the role of the HSE as the regulator of potable water on the United Kingdom Continental Shelf
- Identify key hazard areas that can present risks for water quality and safety on offshore installations
- Understand the need for written control schemes for potable water, and identify key components and elements within an installation's control scheme
- Understand the importance of water sampling results verification, identification of causes of failures and any actions required

Approx. Duration: 50min

Knowledge Check: Yes Exam: Yes Modules:



We will look at various water treatment methods, including biocide dosing, shock-dose and remedial treatments.



### Water Treatment Programs Module 3.1



#### COURSE DESCRIPTION

The treatment of water involves the use of different techniques to improve or manage its quality. The focus of this module is on secondary treatment techniques. These are the processes and equipment used to maintain and deliver potable quality water within systems on board an asset to the standards required at point of use.

We will look at various water treatment methods, including biocide dosing, shock-dose and remedial treatments.

### COURSE OBJECTIVES

By the end of this course you should be able to:

- State the purpose of water treatment as part of potable water system management onboard assets
- Identify different methods of treatment
- Explain how biocide dosing is carried out onboard and influencing factors
- Describe the basics of chlorine in water
- Identify the main considerations when carrying out routine testing of chlorine biocide levels within potable water

Approx. Duration: **30min** 

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



Techniques for collecting water samples and explain the logistics and administration needed to prepare and transport them to a laboratory.

### Water Quality Sampling Module 3.2



#### COURSE DESCRIPTION

HSE and industry guidelines identify sampling outlets within the potable water distribution system as a requirement. In this module we will introduce you to the materials and equipment required and the reasons why sampling is carried out.

We will look at the techniques for collecting water samples and explain the logistics and administration needed to prepare and transport them to a laboratory.

### COURSE OBJECTIVES

By the end of this course you should be able to:

- Understand why sampling of potable water is required and what aspects should be tested
- Identify industry standards for sampling including frequency, number, and locations
- Understand what materials and equipment are required for taking a water sample, including differences in bottle types for different aspects
- Identify issues affecting a sample being representative
- Understand the steps required for the hygienic collection of a potable water sample
- Explain how to prepare water samples and transport for submission to a laboratory
- Develop an awareness of steps involved on receipt of sample results"

Approx. Duration:Knowledge Check:Exam:Languages:Modules:30minYesYesENG1



System operation and water distribution methods can all impact water quality.



# System Operation, Actions and Checks Module 3.3



#### COURSE DESCRIPTION

System operation and water distribution methods can all impact water quality.

In this module, we will look at the steps required to control the quality of generated and bunkered water supplies, and explain how tank systems should be operated to limit any affects.

We will identify the types, locations and frequency of checks required for potable water, and look at the importance of controls and continuous monitoring of water quality.

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### COURSE OBJECTIVES

By the end of this course you should be able to:

- Understand how system operation methods can impact water quality
- Identify the steps required to control the quality of generated and bunkered water supplies entering the system
- Recognise tank hazards and how they should be operated to best prevent impacts on quality
- Explain how distribution systems can create quality hazards and how to operate and take action to limit any effects
- Identify the types, locations and frequency of checks required for potable water on an asset
- Understand the importance of, and how to carry out checks and monitoring of water quality

Approx. Duration: **30min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Regular inspection for hygienic conditions is equally, or even more important, in maintaining an effective and safe potable water system.

### Maintenance Module 3.4



#### COURSE DESCRIPTION

The inspection of tanks and all potable water components for integrity, including coating breakdown and corrosion, is an integral part of maintenance on any asset system.

Regular inspection for hygienic conditions is equally, or even more important, in maintaining an effective and safe potable water system.

In this module, we will look at why we need to maintain potable water systems and the different forms of maintenance required, including superchlorination and other key activities.

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### COURSE OBJECTIVES

#### By the end of this course you should be able to:

- Understand why sampling of potable water is required and what aspects should be tested
- Identify industry standards for sampling including frequency, number, and locations
- Understand what materials and equipment are required for taking a water sample, including differences in bottle types for different aspects
- Identify issues affecting a sample being representative
- Understand the steps required for the hygienic collection of a potable water sample
- Explain how to prepare water samples and transport for submission to a laboratory
- Develop an awareness of steps involved on receipt of sample results

Approx. Duration:Knowledge Check:Exam:Languages:Modules:30minYesYesENG1



### Module 3 - All Modules 3.1-3.4



### COURSE DESCRIPTION

Please see details for all sectionts of this module.



### COURSE OBJECTIVES

Please see details for all sections of this module.

Approx. Duration: **120min** 

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:

4



In all instances, the equipment designed to maintain containment of materials has a maximum pressure design rating, which if exceeded can lead to catastrophic consequences.

### Introduction to Pressure Relief Safety Valves



#### COURSE DESCRIPTION

There are a number of sources from which pressure is generated in an oil and gas facility.

In all instances, the equipment designed to maintain containment of materials has a maximum pressure design rating, which if exceeded can lead to catastrophic consequences.

Pressure relief devices are therefore an important line of defence in preventing such occurrences.

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### COURSE OBJECTIVES

By the end of this course you should be able to:

- Recognise the importance of reliability of relief valve operation
- Explain how flare and vent gas is gathered
- Define the different types of relief equipment and their functions
- Consider the different relief valve applications
- Describe the isolation methodologies used to allow maintenance tasks to be performed

Approx. Duration: 45min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Each year in Great Britain alone, there are in the region of 150 reported dangerous occurrences involving an unintentional release of pressure, and around six of these result in fatal or serious injuries.

### **Introduction to Pressure Safety** Modules 1-2



#### COURSE DESCRIPTION

If pressurised equipment fails when in use, it can lead to serious injuries, damage to property and harm to the environment. Each year in Great Britain alone, there are in the region of 150 reported dangerous occurrences involving an unintentional release of pressure, and around six of these result in fatal or serious injuries.

Understanding what pressure is and how it works is the first step to reducing the risks associated with pressurised equipment. In this course we will explain what pressure is and look at the differences between static, dynamic and differential pressure. You will also learn of the various ways in which we measure pressure.



### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The different types of pressure
- How pressure is measured
- The different units used in pressure measurement
- How a change in pressure can affect fluid temperature
- The hazards of pressure
- Pressure safety in the workplace
- The preventions and controls that are used
- The need for constant pressure awareness

Approx. Duration: 80min

Knowledge Check: Yes Exam: Yes Languages: ENG



In this course we describe the different methods of pressure testing in the oil and gas industry and the hazards that are associated with them.



### Introduction to Pressure Testing



#### COURSE DESCRIPTION

In this course we describe the different methods of pressure testing in the oil and gas industry and the hazards that are associated with them.

We will explore the different equipment and pressure testing techniques.

This course aims to teach you about safe pressure testing operations and the precautions that should be taken.

### COURSE OBJECTIVES

- Explain the dangers posed by pressurised systems
- Identify the different test mediums and their uses
- Define the safety considerations when planning pressure test operations
- Explain the importance of ensuring good test equipment maintenance

Approx. Duration: <b>50min</b>	Knowledge Check:	Exam:	Languages:	Modules:
	<b>Yes</b>	<b>Yes</b>	ENG	<b>1</b>



An understanding of P&IDs is essential when carrying out plant and process operations, such as tracing faults, isolating equipment and locating items for maintenance.

### Process and Instrumentation Diagrams



#### COURSE DESCRIPTION

A Process and Instrumentation Diagram, known as a P&ID, shows how process equipment is connected and by the use of symbols, represents flow directions, safety and control systems, pressure ratings and other key piping and instrument details of a system. An understanding of P&IDs is essential when carrying out plant and process operations, such as tracing faults, isolating equipment and locating items for maintenance.

In this module we will take a detailed look at P&IDs, and show you how to read and understand the major parts. We will explore the actual process equipment and illustrate how specific parts are represented on the diagrams.



The aim of this course is to teach you about the following subjects:

- What a Process and Instrumentation Diagram (P&ID) contains and what it is used for
- What the symbols represent on a P&ID
- How pressure and flow are shown on a P&ID
- How to read and understand the basic parts of a P&ID
- How equipment is represented on a P&ID

Approx. Duration: 40min

Knowledge Check: Yes Exam: Yes



This module provides an introduction into how refineries process crude oil into component parts, or fractions, by a process known as Distillation.

### **Process Distillation**



#### COURSE DESCRIPTION

This module provides an introduction into how refineries process crude oil into component parts, or fractions, by a process known as Distillation.

An insight into some of the equipment that can be found in a typical refinery distillation unit is also provided.

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### COURSE OBJECTIVES

By the end of this course you should be able to:

- Define some of the products produced by the distillation process
- Recognise the importance of the energy required to feed and run a distillation unit
- Relate to the principles of boiling points and vapour pressure
- Explain the basic function of a distillation unit
- Explain the purpose of the components that may be found in distillation columns
- Identify some of the equipment contained in a distillation unit

Approx. Duration:Knowledge Check:Exam:Languages:Modules:45minYesYesENG1



### Introduction to Process Flow Diagrams



#### COURSE DESCRIPTION

The safe operation of a process system is of fundamental importance to ensuring the health and safety of all workers, local communities and the environment.

In this course we will provide the basic knowledge required to understand Process Flow Diagrams and include an overview of the equipment symbols and numbering information found on the drawings, the routes of flow between equipment and the designed operating process parameters, such as temperature, pressure, fluid density, individual flow capacities and mass flow rates.

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### COURSE OBJECTIVES

- Describe the development of a PFD
- Explain the relationship between BFD's, PFD's and P&ID's
- Recognise equipment symbols and codes
- Identify equipment numbering and lettering
- Explain process stream information
- Describe equipment summary tables

Approx. Duration:	Knowledge Check:	Exam:	Languages:	
30min	Yes	Yes	ENG	



Accuracy is very important, mores so when what is being measured could have a potential impact on control or safety if a measurement is wrong.

### Introduction to Process Measurement



#### COURSE DESCRIPTION

Measurement is all about discovering the length, volume, temperature, weight, mass, pressure etc., of something, and is important in the oil, gas and chemical industries, and essential in engineering and construction.

Accuracy is very important, mores so when what is being measured could have a potential impact on control or safety if a measurement is wrong.

This course will introduce you to the importance of accurate measurement, and the various process variables used in the oil and gas industry.

### COURSE OBJECTIVES

By the end of this course you should be able to:

- Recognise the importance of accurate measurement
- List the four main process variables in oil and gas
- Explain the difference between gauge and absolute
- Identify units of pressure
- Recognise the importance of pressure transmitters
- Recognise the importance of accurate level measures
- Explain the importance of flow measurement
- List the three common temperature scales
- Recognise different units of flow
- Identify types of flow meter

Approx. Duration:Knowledge Check:Exam:Languages:Modules:30minYesYesENG1

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Process alarm and shutdown systems provide an alarm or warning that a process system is operating outside ideal or designated parameters and protects people, the environment and facilities.

### Process Safety Shutdown Systems



#### COURSE DESCRIPTION

Process alarm and shutdown systems perform two basic functions: the first is to provide an alarm or warning that a process system is operating outside ideal or designated parameters – usually where a process variable measurement is trending outside set conditions.

The second is to protect people, the environment and facilities by initiating a shutdown and sounding of alarms. ()

### COURSE OBJECTIVES

- Describe some of the components used in ESD systems
- Identify the Hierarchy of Process Controls
- Recognise some of the reasons and needs for a shutdown trip
- Explain the roles of the different emergency shutdown systems
- Define shutdown levels and the hierarchies of operation
- Identify the roles of relays and solenoids
- Relate to the importance of high reliability components in safety critical systems

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
<b>30min</b>	<b>Yes</b>	<b>Yes</b>	ENG	1



### Process Safety Suite Modules 1-7



### COURSE DESCRIPTION

Please see details for all courses in this suite.



### COURSE OBJECTIVES

Please see details for all courses in this suite.

Approx. Duration: **180min** 

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules: 7



Corrosion works in a multitude of ways and affects all forms of metallic equipment within the oil and gas industry.

### **Corrosion Awareness** Module 1



#### COURSE DESCRIPTION

Corrosion works in a multitude of ways and affects all forms of metallic equipment within the oil and gas industry.

Due to its numerous forms of attack, no metallic equipment is immune to corrosion. Whether it's a pressure vessel or a steel structure, attack can happen either from the inside out (product, process fluid, particles, etc.) or from the outside in (rain, moisture, pollution, etc.).

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### COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe what corrosion is and why it matters to the oil and gas industry
- Identify the types of equipment affected by corrosion
- Explain how to locate Corrosion Under Insulation (CUI) and how it can be detected
- Describe how to avoid and prevent corrosion
- Define Corrosion Under Insulation and coating degradation

Approx.	Duration:	
30min		

Knowledge Check: Yes Exam: Yes Languages: ENG

Modules:



A Hazardous Area is defined as a place that has the potential for a flammable mixture of gas and air, vapour and air, or dust in sufficient quantities to cause a fire or explosion.

### Hazardous Areas Classification Module 2



#### COURSE DESCRIPTION

A Hazardous Area is defined as a place that has the potential for a flammable mixture of gas and air, vapour and air, or dust in sufficient quantities to cause a fire or explosion.

Personnel operating in hazardous areas need to be aware of these risks and understand how to mitigate the likelihood of a fire or explosion by controlling and restricting their activities.



### COURSE OBJECTIVES

- Define what a Hazardous Area is
- Describe what the explosion and ignition sources are
- Explain how to prevent ignition
- Describe the safeguards and rules

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
20min	<b>Yes</b>	<b>Yes</b>	ENG	1


### Water Hammer and Cavitation Module 3



#### COURSE DESCRIPTION

Water hammer is the name given to the effect of sudden pressure changes, also known as pressure shocks, in pipelines or other equipment. The stresses caused by these shocks are typically greater than those to which the equipment is usually subjected, or in fact designed to withstand.

The shock wave, which travels with the velocity of sound, can cause deformation or even breakage of system components and equipment. The occurrence of water hammer is characterised by loud banging and knocking noises from within the system pipework. (Č)

#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe what water hammer is and the different types that can occur
- Identify the possible causes and consequences of water hammer
- Describe the basic rules to avoid the occurrence of water hammer
- Explain what cavitation is as well
  as why and where it can occur
- Identify the potential consequences of cavitation
- State the basic rules for avoiding cavitation

Approx. Duration: **30min** 

Knowledge Check: Yes Exam: Yes Languages: ENG



This course is designed to give you a better understanding of Fires and Explosions, with emphasis on how to categorise, prevent and fight fires and explosions.





#### COURSE DESCRIPTION

This course is designed to give you a better understanding of Fires and Explosions, with emphasis on how to categorise, prevent and fight fires and explosions.



#### COURSE OBJECTIVES

- Categorise the types of fire
- Summarise the principles of fire prevention and control
- State what to do in case of a fire
- Identify how explosions occur
- Describe the principles of explosion prevention and control





Having accurate information about the operating facilities is essential to understanding the issues. This information is critical to the development and implementation of the required mitigation.

# **Process Safety Information** Module 5



#### COURSE DESCRIPTION

There have been a number of process safety related incidents over the past few years. The results of these incidents could potentially have led to injuries, damage to the asset, damage to the environment or have negative effects on the reputation of the company.

Having accurate information about the operating facilities is essential to understanding the issues. This information is critical to the development and implementation of the required mitigation.

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#### COURSE OBJECTIVES

- Define Process Safety
- Explain what Process Safety Information is
- Identify examples of Process Safety Information documents
- Describe why Process Safety Information is vital to safe operations





It is vitally important that workers communicate and coordinate with each other, as throughout the history of the oil and gas industry, many accidents have occurred because of failure of communication at shift handover.

# **Shift Handover** Module 6



#### COURSE DESCRIPTION

In industries that operate continuous processes, continuity is maintained across shift changes via a shift handover.

It is vitally important that workers communicate and coordinate with each other, as throughout the history of the oil and gas industry, many accidents have occurred because of failure of communication at shift handover.

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#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Recognise potential issues if the shift handover is not done correctly
- Describe what you need for a shift handover
- Identify who is involved
- Explain how a shift handover should take place
- Recognise the value of a proper shift handover

Approx. Duration:Knowledge Check:Exam:Languages:Modules:20minYesYesENG1



There are many examples of inadequately managed changes that have resulted in catastrophic accidents, for example the Flixborough disaster.

### Management of Change Module 7



#### COURSE DESCRIPTION

Management of Change, or MoC, is a practice used to ensure that health, safety and environmental risks are controlled when a company makes changes to their facilities, documentation, personnel, or operations.

There are many examples of inadequately managed changes that have resulted in catastrophic accidents, for example the Flixborough disaster.

In this course, we will take a look at the lessons learned from the Flixborough disaster, distinguish different types of change, understand the RACI principle and go through each step in the MoC process.



#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Define what Management of Change is
- Recognise when Management of Change is to be applied
- Use the RACI principle to define roles within a Management of Change process
- Distinguish between the different types of change

Approx.	Duration
30	min

Knowledge Check: Yes Exam: Yes Languages: ENG



In this course, you will learn about the different types of pumps, their properties and uses, packing glands and seals, pump calculations and how to maintain them.



# **Pump Basics**



#### COURSE DESCRIPTION

In this course, you will learn about the different types of pumps, their properties and uses, packing glands and seals, pump calculations and how to maintain them.

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#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe the different types of pump and their applications
- Identify the components of a centrifugal pump
- Identify the components of a reciprocating pump
- Explain the importance of safety relief valves when using positive displacement pumps
- Define the periodic maintenance and integrity checks required to maintain pump performance

Approx. Duration:Knowledge Check:Exam:Languages:Me40minYesYesENG

Modules: 1



PUWER regulations cover ALL work equipment, from steam rollers to grinders, and from cherry pickers to the office photocopier!

## Introduction to PUWER



#### COURSE DESCRIPTION

This introduction will guide you through the Provision and Use of Work Equipment Regulations. It is not necessary to know the regulations off by heart, but it IS important to know that these regulations exist, and are there to protect you.

PUWER regulations cover ALL work equipment, from steam rollers to grinders, and from cherry pickers to the office photocopier! The regulations cover their use, inspection and maintenance, to help provide a safe working environment, whatever equipment you use.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Workplace regulations and definitions
- Equipment controls, markings and warnings
- The law relating to equipment in the workplace
- The importance of maintenance and inspection
- Your own responsibilities

Approx. Duration:Knowledge Check:Exam:Languages:Modules:40minYesYesENG1



With the amount of choice and competition in the modern world, customers will not think twice about taking their business elsewhere if a company does not deliver a quality product first time and every time.

### **Introduction to Quality**



#### COURSE DESCRIPTION

With the amount of choice and competition in the modern world, customers will not think twice about taking their business elsewhere if a company does not deliver a quality product first time and every time.

This course will look at what quality is, the importance of standards, how to measure quality improvements and the impact of a quality control process. With growing evidence of almost worldwide recognition as a global standard, ISO 9001 will be discussed. We'll look at what it is and see what it can do for you.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The importance of quality
- How quality is produced
- How standards affect the workplace
- The significance of quality control
- What ISO 9000 and 9001 are





An oil refinery is effectively a factory the converts crude oil into a range marketable products in the most efficient and cost effective manner possible.

# Introduction to Refineries and Refining



#### COURSE DESCRIPTION

An oil refinery is effectively a factory that converts crude oil into a range of marketable products in the most efficient and cost effective manner possible.

This course is designed to help you understand the basics of working on a refinery, from the different processes and units used, to the general maintenance, safety implications and products produced.

#### COURSE OBJECTIVES

- Understand the role of refinery
- Recognise the importance of regular maintenance
- Explain the different types of refinery
- Recognise the products produced by refining processes
- Identify the various processes carried out by refinery units

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
30min	Yes	Yes	ENG	1



Accidents and ill health can ruin lives and affect businesses if output is lost, machinery is damaged or insurance costs increase.



# Introduction to Risk Assessment



#### COURSE DESCRIPTION

A risk assessment is a careful examination of your workplace to identify what may cause harm to you and those around you. It allows employers to see if they have taken suitable precautions, or should do more to prevent harm. Accidents and ill health can ruin lives and affect businesses if output is lost, machinery is damaged or insurance costs increase. Employers are legally required to assess the risks in their workplace, so a plan must be put in place to control these risks.

This course will show you how to carry out a risk assessment and help you to identify hazards and reduce the risk of accidents happening.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- Hazards and risks
- Identifying hazards
- Measuring the risk
- Reducing the risk to as low as reasonably practicable
- Recording and monitoring

Approx. Duration: **35min** 

Knowledge Check: Yes Exam: Yes Languages: ENG



In this course, participants will learn about the benefits of undertaking a thorough root cause analysis in the event of an incident in the workplace.

# **Root Cause Analysis**

#### COURSE DESCRIPTION

In this course, participants will learn about the benefits of undertaking a thorough root cause analysis in the event of an incident in the workplace.

We will look at the different tools available in order to most effectively identify what caused the incident in question and establish how to ensure that a similar incident cannot happen again.



#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Explain what Root Cause Analysis actually is
- Describe the impact of human involvement in events
- Describe the seven steps of the Root Cause Analysis process
- Explain the importance of the problem statement
- Identify the techniques used when carrying out Root Cause Analysis
- Discuss how corrective actions are identified and implemented

Approx. Duration: 30min Knowledge Check:

Yes

Exam: Yes

Languages: ENG Modules:



During the life of a well, explosives may be used to perforate through steel tubulars that are cemented into place in a well and into the hydrocarbon bearing rock formation.

# Introduction to Safe Storage and Handling of Explosives



#### COURSE DESCRIPTION

Explosives are used in the oil and gas industry for several purposes. During the life of a well, explosives may be used to perforate through steel tubulars that are cemented into place in a well and into the hydrocarbon bearing rock formation.

Often many hundreds of these perforations are made in order to provide the flow paths through which oil and gas can be produced from a well.

This course will introduce explosives and their many uses, as well as the safety procedures that need to be considered to avoid a dangerous occurrence.



By the end of this course you should be able to:

- Relate to the hazards and related precautions to be taken with storage and handling of explosives
- Describe where explosives may be used in the oil and gas industry
- Explain the labelling requirements for explosives in storage and during transport
- Recognise the importance of preparing the required shipping documentation for explosives
- Consider the importance of segregating incompatible materials while in storage and in transit

Approx. Duration: **30min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



A Safety Observation System (SOS) is designed to encourage everybody in the workplace to look at their attitude towards health and safety.

### Introduction to Safety Observation Systems Modules 1-2



#### COURSE DESCRIPTION

Many accidents and incidents in the workplace are caused by human error, so changing people's attitude and behaviour towards safety will inevitably result in a reduction in injuries.

A Safety Observation System (SOS) is designed to encourage everybody in the workplace to look at their attitude towards health and safety. It is a highly adaptable system, able to cope with many different workplace scenarios, across many different types of industry.

This course has been designed to show you how to recognise an unsafe act, when to get involved and make a difference, and the nine core principals of a successful system.

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#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The functions of a Safety Observation System
- How and when to intervene in an unsafe act or process
- The nine basic principles of a successful Safety Observation System
- How to recognise an unsafe act, and carry out Safety Observations
- The challenges of changing people's attitudes toward safety

Approx. Duration: 65min

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Safety Representatives are volunteers who have functions and powers, and in order to carry out their role, will be able to inspect any part of an installation or its equipment.

# Safety Representative Refresher



#### COURSE DESCRIPTION

The role of a Safety Representative is to act as a facilitator to help improve standards within the workplace, but without forming part of the management structure. Safety Representatives are volunteers who have functions and powers, and in order to carry out their role, will be able to inspect any part of an installation or its equipment.

This course will teach you about the role of a Safety Representative, and the legal, moral and financial reasons for forming a strong health and safety culture within the workplace. You will learn of the differences between inspections and audits, how to conduct an investigation and the importance of a successful Safety Management System.

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#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe the importance of a strong health and safety culture
- Define the proactive and reactive approaches to health and safety
- Recall the responsibilities of a Safety Representative
- Explain how to perform safety audits and inspections
- Describe the importance of a Safety Management System

Approx. Duration: **25min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



On April 20th 2010, an explosion on the Deepwater Horizon rig, which was involved in drilling operations over the Macondo well in the Gulf of Mexico, resulted in 11 fatalities and the largest accidental oil spill in the history of the Oil and Gas Industry.

### **Introduction to SEMS**



#### COURSE DESCRIPTION

On April 20th 2010, an explosion on the Deepwater Horizon rig, which was involved in drilling operations over the Macondo well in the Gulf of Mexico, resulted in 11 fatalities and the largest accidental oil spill in the history of the Oil and Gas Industry.

Following the Macondo incident, the Bureau of Safety and Environmental Enforcement, commonly referred to as 'Bessie', was established to oversee offshore Safety and Environmental performance.

### COURSE OBJECTIVES

By the end of this course you should be able to:

- Identify how historical incidents have impacted upon safety and environmental practices
- Define what a Safety and Environmental Management System (or SEMS) is
- Identify the regulatory requirements associated with SEMS
- Explain the enhancements introduced

Approx.	Duration:			
30min				

Knowledge Check: Yes Exam: Yes Languages: ENG



Global statistics show that 1 in every 6 accidents at work are caused by slips, trips and falls, and they are the second leading cause of death in the workplace.

# Introduction to Slips, Trips and Falls



#### COURSE DESCRIPTION

Global statistics show that 1 in every 6 accidents at work are caused by slips, trips and falls, and they are the second leading cause of death in the workplace. The cost to society in the UK alone is over  $\pounds 800$  million per year, including a cost to our National Health Service of £133 million.

Understanding the potential hazards and having a 'see it, sort it' mentality will help to prevent a large number of accidents.

This course will identify the typical causes of slip and trip accidents, run through a risk assessment to show you how you can reduce the risk, and emphasise the importance of attitude within the workplace.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- The real cost of slips, trips and falls
- Who is affected
- The typical causes
- Prevention methods
- Your, and your employer's responsibilities in the workplace

Approx.	Duration:			
45min				

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Oil and gas industry statistics for hydrocarbon releases have shown that, after flanged joints, SBT assemblies have proven to be a significant source of leaks and incidents.

# Introduction to Small Bore Tubing



#### COURSE DESCRIPTION

Small bore tubing, or SBT, and commonly referred to as instrument tubing or impulse lines, is found throughout petrochemical facilities to connect instrumentation and control systems to process plant and utilities systems.

Other applications include providing equipment lubrication, product sampling and chemical injection systems.

Oil and gas industry statistics for hydrocarbon releases have shown that, after flanged joints, SBT assemblies have proven to be a significant source of leaks and incidents.

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#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Describe common applications for small bore tubing and fittings
- Recognise different thread types and sealing properties
- Explain methods used for the make-up of fittings
- Describe the importance of the correct identification of fittings
- Outline the potential consequence of poor or improper assembly

Approx. Duration: **30min** 

Knowledge Check: Yes Exam: Yes Languages: ENG Modules:



Terrorist attacks are designed to cause damage, inflict harm and instil fear in the local population, but knowing what to do and how to react in the unlikely event of being involved in an attack could provide a greater chance of surviving.

### Terrorism Response Awareness Program



#### COURSE DESCRIPTION

The FBI defines terrorism as "the unlawful use of force against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof in the furtherance of political or social objectives."

Terrorist attacks are designed to cause damage, inflict harm and instill fear in the local population, but knowing what to do and how to react in the unlikely event of being involved in an attack could provide a greater chance of surviving.

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#### COURSE OBJECTIVES

- Identify different types of terrorist threats and potential targets
- Describe effective strategies to aid survival during an Active Shooter event
- Recognize suspicious items and describe how to deal with them using the 4C's protocol
- Outline examples of attacks through the postal services and describe the response procedure
- Recognize bomb threats and know how to react to them
- Explain the dangers of Vehicle-Borne Improvised Explosive Devices (VBIED) and other types of vehicle attack

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
25min	Yes	Yes	ENG	1



Three phase separation is the process of breaking well fluid down into its constituent parts, namely oil, water and gas.



### Three Phase Separation Awareness



#### COURSE DESCRIPTION

Three phase separation is the process of breaking well fluids down into its constituent parts, namely oil, water and gas.

In this course we will look at the different types of separator, pros and cons of different orientations, separator components and the importance of sufficient residence time.



#### COURSE OBJECTIVES

- Define the purpose of three phase separation
- Describe the basic principles of three phase separation
- Explain the affects of fluid flow regimes
- Distinguish between the different types of separator
- Define the advantages and disadvantages of each separator type
- Define the functions of the internal and external separator components
- Describe how pressure and liquid levels are monitored and controlled

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
20min	<b>Yes</b>	<b>Yes</b>	ENG	1



It's a vital opportunity to make sure that everyone is on the same page regarding the job to be done and the safety implications that go with it.

# **Toolbox Talk**



#### COURSE DESCRIPTION

Regular Toolbox Talks take place in hazardous environments. It's a vital opportunity to make sure that everyone is on the same page regarding the job to be done and the safety implications that go with it.

But what makes a Toolbox Talk more than just something you attend because you have to? How can you turn a bad Toolbox Talk in to a good one?



#### COURSE OBJECTIVES

#### By the end of this course you should be able to:

- Identify the characteristics of a bad Toolbox Talk
- Identify the characteristics of a good Toolbox Talk
- Identify strategies that you can use to make Toolbox Talks more inspiring





# **Unconscious Bias**



#### COURSE DESCRIPTION

So, what is Unconscious Bias? Bias is where any form of prejudice exists against a people or group, and unconscious bias is the feelings or judgements that are often made on the spur of the moment towards other people, usually at the first time of sighting. This may have been just a cursory glance, without any conversation taking place.

Those unconscious feelings may subsequently play a significant part in influencing our judgement of these people or groups. Awareness of what unconscious bias is, how we can recognise it in ourselves and how we deal with it is important in order to treat other people fairly and with a suitable level of empathy.

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#### COURSE OBJECTIVES

- Recognise what unconscious bias is
- Describe the impacts unconscious bias can have on the workplace
- Outline what is meant by stereotyping and diversity
- Explain the benefits of bias awareness

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules
15min	Yes	Yes	ENG	1



We all generate waste which, if not contained and handled appropriately, could become a major source of pollution. Waste management encompasses the different methods for dealing with all solid, liquid, gaseous and radioactive wastes.

### Introduction to Waste Management



#### COURSE DESCRIPTION

We all generate waste which, if not contained and handled appropriately, could become a major source of pollution. Waste management encompasses the different methods for dealing with all solid, liquid, gaseous and radioactive wastes.

In this course we will look at the importance of waste management, how waste is classified, stored and transported, and through the 'waste hierarchy' we will identify the different methods of reuse, recycling or recovery that must be considered before disposal. Finally, we will look at the unique challenges of waste management in the oil and gas industry.

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#### COURSE OBJECTIVES

By the end of this course you should be able to:

- Recognise the legal and environmental importance of waste management
- Use the Waste hierarchy to control waste and minimise its environmental impact
- Define the different classifications of waste
- Describe how different classifications of waste should be stored and transported
- Define the different methods
  of waste disposal
- Explain how waste is managed across different industries
- Describe the unique challenges of waste management within the oil and gas industry

Approx. Duration:Knowledge Check:Exam:Languages:Modules:45minYesYesENG1



In the UK alone, in 2008/09, falls from height accounted for 35 fatalities, 4,654 major injuries and a further 7,065 other injuries resulting in at least three days off work.

# **Working at Height Awareness**



#### COURSE DESCRIPTION

In the UK alone, in 2008/09, falls from height accounted for 35 fatalities, 4,654 major injuries and a further 7,065 other injuries resulting in at least three days off work. They remain the biggest single cause of workplace deaths and major injuries.

This course is designed to give the learner an awareness of what working at height is and the hazards associated with it. We will look at ways to mitigate the risks and focus on the various means of access, including MEWPs, scaffolding and ladders. We will also look at personal restraint systems and risk assessments.



#### COURSE OBJECTIVES

The aim of this course is to teach you about the following subjects:

- What working at height is
- Hazard awareness
- Personal fall protection equipment
- Safe types of access
- Risk assessment

Approx. Duration:	Knowledge Check:	Exam:	Languages:	Modules:
35min	Yes	Yes	ENG	1