



**Syllabus summary –  
NEBOSH International Technical  
Certificate in Oil and Gas Operational  
Safety  
August 2009**

## **Syllabus summary - NEBOSH International Technical Certificate in Oil and Gas Operational Safety**

### **Structure**

The syllabus consists of one unit.

The unit is divided into a number of elements:

<b>Element Number/Title</b>	<b>Recommended Hours of Tuition</b>	<b>Page</b>
1. Health, safety and environmental management in context	12	2
2. Hydrocarbon process safety 1	8	2
3. Hydrocarbon process safety 2	8	3
4. Fire protection and emergency response	4	3
5. Logistics and Transport Operations	2	4
Minimum total tuition time for IOG1	34	
Recommended private study time	20	
Unit assessment summary		4

## **Element 1: Health, safety and environmental management in context**

### **Learning outcomes**

On completion of this element, candidates should be able to demonstrate understanding of the content through the application of knowledge to familiar and unfamiliar situations. In particular they should be able to:

- Explain the purpose of and procedures for investigating incidents and how the lessons learnt can be used to improve health and safety in the oil and gas industries
- Explain the hazards inherent in oil and gas arising from the extraction, storage, and processing of raw materials and products
- Outline the risk management techniques used in the oil and gas industries:
- Explain the purpose and content of safety cases and safety reports in the oil and gas industries

***Recommended tuition time not less than 12 hours***

## **Element 2: Hydrocarbon process safety 1**

### **Learning outcomes**

On completion of this element, candidates should be able to demonstrate understanding of the content through the application of knowledge to familiar and unfamiliar situations. In particular they should be able to:

- Explain the principles of assessing and managing contractors, including the roles of parties involved
- Outline the tools, standards, measurement, competency requirements and controls applicable to Process Safety Management (PSM) in the oil and gas industries
- Explain the role and purpose of a permit-to-work system
- Explain the key principles of safe shift handover
- Explain the importance of safe plant operation and maintenance of hydrocarbon containing equipment and processes
- Outline the hazards, risks and controls to ensure safe start up and shut down of hydrocarbon containing equipment and processes

***Recommended tuition time not less than 8 hours***

### **Element 3: Hydrocarbon process safety 2**

#### **Learning outcomes**

On completion of this element, candidates should be able to demonstrate understanding of the content through the application of knowledge to familiar and unfamiliar situations. In particular they should be able to:

- Outline types of failure mode that may lead to loss of containment from hydrocarbon
- Outline the controls available to maintain safety critical equipment
- Outline the hazards, risks and controls available for safe storage of hydrocarbons offshore and onshore
- Outline the hazards, risks and controls available for operating boilers and furnaces

***Recommended tuition time not less than 8 hours***

### **Element 4: Fire protection and emergency response**

#### **Learning outcomes**

On completion of this element, candidates should be able to demonstrate understanding of the content through the application of knowledge to familiar and unfamiliar situations. In particular they should be able to:

- Outline appropriate control measures to minimise fire and explosion risk in the oil and gas industries
- Outline the principles, procedures and resources for effective emergency response

***Recommended tuition time not less than 4 hours***

## **Element 5: Logistics and Transport Operations**

### **Learning outcomes**

On completion of this element, candidates should be able to demonstrate understanding of the content through the application of knowledge to familiar and unfamiliar situations. In particular they should be able to:

- Identify the main hazards of and suitable controls for marine transport in the oil and gas industries
- Identify the main hazards of and suitable controls for land transport in the oil and gas industries

***Recommended tuition time not less than 2 hours***

## **Unit assessment summary**

The Unit is a taught unit assessed by one two-hour written examination. The written examination consists of ten 'short-answer' questions and one 'long-answer' question. All questions are compulsory. Candidate scripts are marked by external examiners appointed by NEBOSH.

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