November 2014

Guide to the NEBOSH National Certificate in Fire Safety and Risk Management

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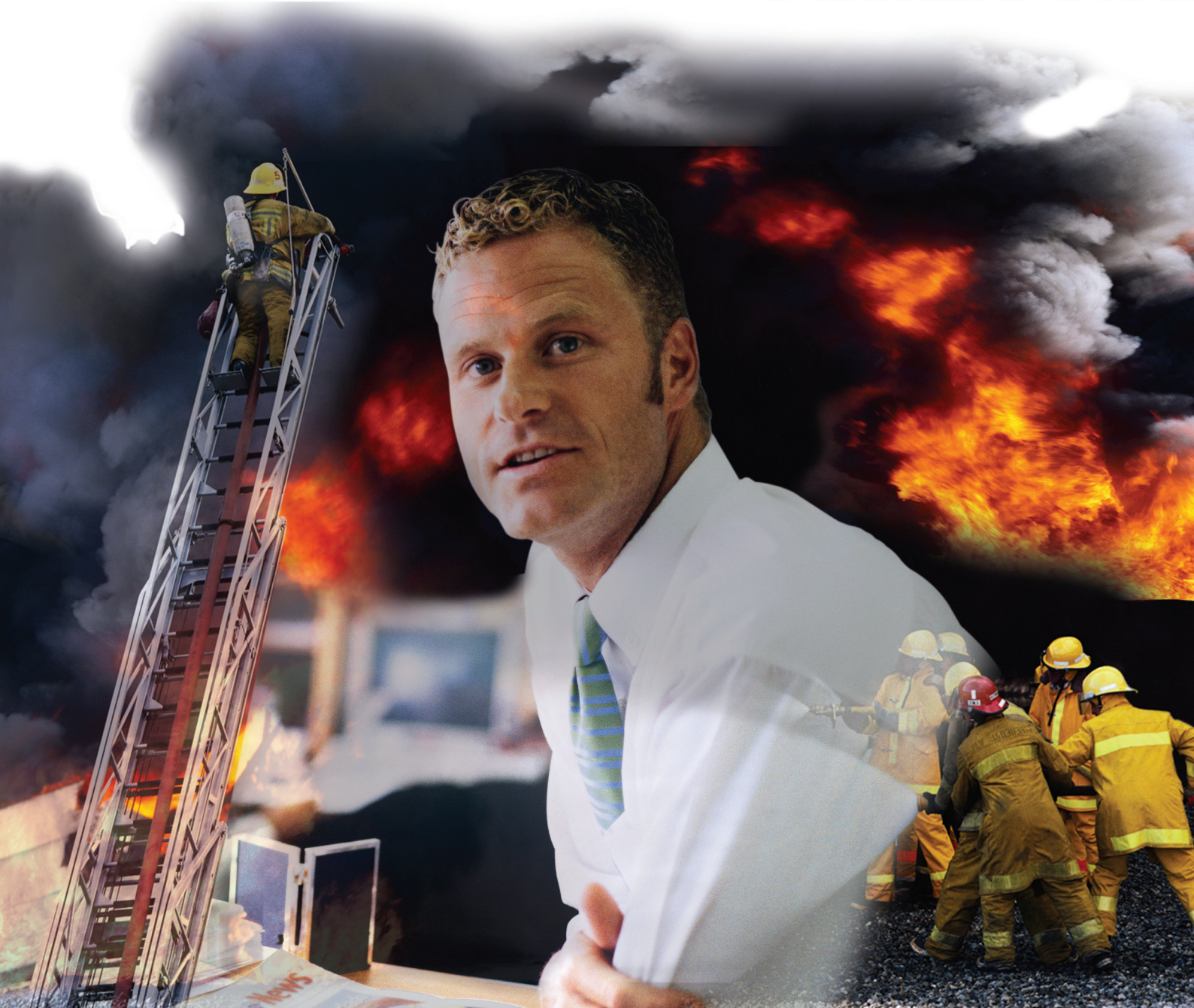

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Guide to the NEBOSH National Certificate in Fire Safety and Risk Management (November 2014 specification)

Contents

1. Introduction

The NEBOSH National Certificate in Fire Safety and Risk Management has been offered since 2005 and is already established as a leading qualification in fire safety, with over 8,000 candidates having achieved the qualification.

The National Fire Certificate has been designed for managers, supervisors, employee representatives and others to provide an appropriate breadth of underpinning knowledge for non-specialists in fire safety to enable them to discharge more effectively their organisational duties or functions with respect to workplace fire safety. It also aims to equip holders to contribute to the conduct and review of fire risk assessments and preventative and protective measures within most low risk workplaces, in accordance with the Regulatory Reform (Fire Safety) Order 2005 and/or the Fire Safety (Scotland) Regulations 2006.

The syllabus and means of assessment described in this Guide were introduced in 2005, revised in 2008 and updated in 2010 and 2013 to take account of current developments in health and safety, fire safety, risk management and vocational assessment. The 2013 revision has been mapped to the 'Competency Criteria for Fire Risk Assessors' which has been produced by the Fire Risk Assessment Competency Council.

The Fire Risk Assessment Competency Council is a broad group of relevant stakeholders which was encouraged to form by the Department of Communities and Local Government. The Council's objective is to establish agreed, industry-wide, criteria against which the competence of a fire risk assessor can be judged. The criteria will be used by professional bodies and third party certification bodies who register or certificate fire risk assessors and, by commercial companies providing fire risk assessment services.

1.1 Benefits for employers

According to the "Fire Statistics Monitor, April 2011 to March 2012" (published by Communities and Local Government), there were 27400 fires in buildings other than domestic dwellings. Of the 304 fire-related deaths in the UK in 2011/12, 117 were on non-domestic premises with an addition of 2000 non-fatal casualties. From the total of 9300 non-fatal fire casualties (including those from dwelling fires), 8% of casualties were referred to hospital with severe injuries and 38% with slight injuries. A further 33% of casualties were given first-aid at the scene of the fire.

The economic impact is also compelling; a report produced by the Department for Communities and Local Government entitled “The Economic Cost of Fire: Estimates for 2008” estimated that the total cost of fire to the economy for this period was £8.3bn (arson accounted for £2.3bn of this figure); the total costs as a consequence of fire was £3.3bn which consisted of property damage, lost business, the economic cost of injuries and fatalities and legal costs. The report stated the average cost of a fire in a commercial building was £75881; the cost of fire damage to property equates to £2634 per fire.

In addition to the direct costs, employers can find themselves dealing with criminal prosecution, claims for compensation, adverse publicity and harm to both business reputation and profitability. Even a minor fire at a key production stage can mean very large losses for individual firms. Fire Protection Association statistics indicate that 77% of businesses experiencing a major fire never fully recover. Furthermore, fires causing the closure of premises could have a significant effect on staff.

The vast majority of fire-related incidents can be avoided using sound health, fire safety and risk management. Many larger organisations choose the NEBOSH National Fire Safety Certificate as a key part of their supervisors' or management development programme. This qualification is also suitable for smaller organisations operating in lower risk environments, to assist in meeting the requirements of the Regulatory Reform (Fire Safety) Order 2005 and/or the Fire Safety (Scotland) Regulations 2006 and/or the Fire Safety Regulations (Northern Ireland) 2010, including fire risk assessments.

This course may be delivered within an organisation, or employees can attend accredited training courses run throughout the UK by our network of accredited course providers. NEBOSH accredited course providers offer a variety of flexible course formats, so training can be arranged according to employer needs.

1.2 Professional membership

Holders of the NEBOSH National Certificate in Fire Safety and Risk Management are entitled to Associate Membership (AIOSH) of the Institution of Occupational Safety and Health (IOSH). The qualification also meets the academic requirements for Technician membership (Tech IOSH) of the Institution of Occupational Safety and Health (IOSH – www.iosh.co.uk) and Associate membership (AIIRSM) of the International Institute of Risk and Safety Management (IIRSM – www.iirsm.org).

Holders of the NEBOSH National Fire Certificate are entitled to Technician membership (TIFPO) of the Institute of Fire Prevention Officers (IFPO) and the qualification meets the academic requirements for Associate Membership (AMIFPO). Qualification holders with the relevant skills and experience may also apply to join the IFPO Fire Risk Assessors register.

1.3 Qualification level and UK accreditation

The NEBOSH National Fire Safety Certificate is accredited and credit rated by the Scottish Qualifications Authority Accreditation (SQA - www.sqa.org.uk) for delivery across the UK. It is rated within the Scottish Credit and Qualifications Framework (SCQF - www.scqf.org.uk) at SCQF Level 6 with 13 SCQF credit points.

For users in England, Wales and Northern Ireland, this is comparable to a Vocationally-Related Qualification (VRQ) at Level 3 within the National Qualifications Framework (NQF) and Qualifications and Credit Framework (QCF), or A-Level standard.

For further information please refer to the *"Qualifications can cross boundaries"* comparison chart issued by the UK regulators, available from the SQA website (www.sqa.org.uk).

1.4 Key topics covered

- Legal requirements for health and safety at work
- Implementation of health and safety management systems and managing fire safety
- Identification of workplace fire hazards
- Methods of fire hazard control
- Practical application of knowledge and understanding via a fire risk assessment.

1.5 Course tuition and private study time requirements

Unit NGC1: 36 hours tuition and 23 hours private study	**Total: 59 hours**
Unit FC1: 29 hours tuition and 24 hours private study	**Total: 53 hours**
Unit FC2: 4 hours tuition and 4 hours private study	**Total: 8 hours**

A programme of study therefore needs to be based around a minimum of **69 taught hours** and approximately **51 hours of private study** for an overall total of **120 hours.**

A full-time block release course would be expected to last for a minimum of nine working days and a part-time day release course would be spread over at least nine weeks.

For candidates studying by open or distance learning, the tuition hours should be added to the recommended private study hours to give the minimum number of hours that this mode of study will require.

Quoted hours *do not* include assessment time, ie, sitting written examinations or the practical application unit (see 1.6).

1.6 Entry requirements

There are no specific barriers, in terms of academic qualifications, skills or experience for entry to the NEBOSH National Certificate in Fire Safety and Risk Management programme. However, it should be noted that currently the assessments are offered, and must be answered, in English only. The qualification includes a requirement to complete a 'fire risk assessment sheet' and a 'summary fire risk assessment sheet' which must also be completed in English. Candidates should discuss this with the accredited course provider before undertaking the qualification.

1.7 Minimum standard of English required for candidates

The standard of English required by candidates studying for the NEBOSH National Certificate in Fire Safety and Risk Management must be such that they can both understand and articulate the concepts contained in the syllabus. It is important to stress that the onus is on accredited course providers to determine their candidates' standards of proficiency in English.

NEBOSH recommends to accredited course providers that candidates undertaking this qualification should reach a minimum standard of English *equivalent* to an International English Language Testing System score of **6.0** or higher in IELTS tests in order to be accepted onto a National Certificate in Fire Safety and Risk Management programme.
For further information please see the latest version of the IELTS Handbook or consult the IELTS website: http://www.ielts.org/institutions/test_format_and_results.aspx.

Candidates wishing to assess their own language expertise may consult the IELTS website for information on taking the test: http://www.ielts.org/institutions/faqs.aspx.

1.8 Languages

All unit examinations and the practical assessment must be taken in English.

1.9 Legislation

The syllabus refers to the legislative systems of England, Northern Ireland, Wales and Scotland; candidates may refer to any of these legislative systems provided that these references are clearly indicated as such.

If this qualification is delivered overseas, accredited course providers may refer to examples of local legislation as part of the course programme but examination questions will refer to UK legislation only. The NEBOSH International Certificate in Fire Safety and Risk Management is also available and is normally more appropriate for overseas candidates.

1.10 Legislative updates

Relevant new legislation will become examinable in detail six months after its date of introduction. However, candidates will be expected to be essentially up-to-date at the time of the examination and, whilst a detailed knowledge will not be expected, reference to new or impending legislation, where relevant to an examination question, will be given credit.

Please note, NEBOSH will not ask questions related to legislation that has been repealed, revoked or otherwise superseded.

NB: Accredited course providers are expected to ensure their course notes remain current with regard to new legislation.

1.11 National Occupational Standards (NOS) and best practice

The syllabus is mapped to the relevant National Occupational Standard (NOS):

- NOS for Health and Safety (Standalone units) 2011, published by Proskills Sector Skills Council
- NOS for Fire Safety 2010 published by Skills for Justice Sector Skills Council

The mapping of the syllabus units to each NOS can be found in Section 5.

The syllabus has also been mapped against the 'Competency Criteria for Fire Risk Assessors' which has been produced by the Fire Risk Assessment Competency Council and can be found in Section 5.

1.12 Qualification type

NEBOSH offers Vocationally-Related Qualifications (VRQs) in England, Wales and Northern Ireland.

VRQs provide the knowledge and practical skills required for particular job roles through a structured study-based training programme, that combine the testing of knowledge and understanding in written examinations with practical application of learning in the workplace.

VRQs are a popular type of qualification because they are nationally recognised, flexible and offer routes for progression to employment or further study.

In Scotland, VRQs are known as ‘Other accredited qualifications’.

1.13 Qualification progression

Unit NGC1 is common to:

- NEBOSH National General Certificate in Occupational Health and Safety
- NEBOSH National Certificate in Construction Health and Safety
- NEBOSH National Certificate in Fire Safety and Risk Management

Unit FC2 is common to:

- NEBOSH International Certificate in Fire Safety and Risk Management
- NEBOSH National Certificate in Fire Safety and Risk Management.

This enables students seeking to develop specialist knowledge to combine units across these NEBOSH qualifications. Unit NGC1/FC2 holders do not need to re-sit assessment/s providing it was successfully achieved within the five year completion period for each qualification.

Candidates wishing to further develop their health and safety expertise may consider studying:

- NEBOSH National Diploma in Occupational Health and Safety.

This qualification is designed to provide students with the expertise required to undertake a career as a health and safety practitioner and also provides a sound basis for progression to postgraduate study.

Candidates looking to use their expertise overseas may consider:

- NEBOSH International General Certificate in Occupational Health and Safety
- NEBOSH International Certificate in Construction Health and Safety
- NEBOSH International Certificate in Fire Safety and Risk Management

These qualifications focus on international standards and management systems rather than UK legislation.

Further information regarding our qualification portfolio can be found on our website: www.nebosh.org.uk/qualifications

1.14 Programmes offered by NEBOSH-accredited course providers

Accredited course providers can be located using the 'Where to study' tab on our website: www.nebosh.org.uk

NB: Candidates are advised to check up-to-date information on course dates with accredited course providers directly.

1.15 Examination dates

'Standard' examination dates for this qualification are available in March, June, September and December annually. Accredited course providers may request 'on-demand' examinations on a date of their choosing for this qualification.

1.16 Specification date

The November 2014 specification for this qualification replaces the previous April 2013 specification.

1.17 Syllabus development and review

The syllabus has been developed by NEBOSH following extensive consultation with key stakeholders, notably accredited course providers, professional bodies, employers, standards setting organisations, enforcement bodies and subject experts. NEBOSH would like to take this opportunity to thank all those who participated in the development, piloting and implementation of this qualification. Minor amendments have been made to demonstrate that the qualification maps to the "competency criteria".

1.18 Further information for candidates

Further information for candidates including a syllabus summary, qualification overview leaflet, a sample examiner's report and guidance regarding the practical unit can be found via the NEBOSH website (www.nebosh.org.uk). Examiners' reports may be purchased from the NEBOSH online shop.

1.19 Further information for accredited course providers

Further information for accredited course providers including policies and procedures and guidance on the practical unit can be found in the accredited course providers' section of the NEBOSH website.

1.20 Transitional arrangements

The November 2014 specification for this qualification has been replaced by the April 2020 specification. The following dates are applicable to all learners who are currently studying the November 2014 specification.

30 September 2021	Last date that **new learners*** can be registered to the 2014 specification
from 01 October 2021	2014 specification - registrations for **existing learners** only**
23 June 2023	2014 specification - last assessment date

* A **new learner** is classed as a person who has not been registered for an assessment of the 2014 specification.

** An **existing learner** is a person who has been registered for at least one unit of the 2014 specification (status must be studying, absent, Pass or Refer).

Further details can be found on the NEBOSH website (www.nebosh.org.uk).

2. Qualification structure

2.1 Unit assessment

The NEBOSH National Certificate in Fire Safety and Risk Management is divided into three units. All units are mandatory unless an exemption can be applied (see 2.2). There are no optional units. Candidates may choose to take one, two or all three units at the same time or at different times.

Unit NGC1: Management of health and safety

- Unit NGC1 is a taught unit, assessed by one two-hour written examination
- Each written examination consists of ten 'short-answer' questions (8 marks each) and one 'long-answer' question (20 marks); all questions are compulsory
- Each examination paper covers the whole unit syllabus
- Candidate scripts are marked by external examiners appointed by NEBOSH
- A sample examination paper can be found in Section 5.

Unit FC1: Fire safety and risk management

- Unit FC1 is a taught unit, assessed by one two-hour written examination
- Each written examination consists of ten 'short-answer' questions (8 marks each) and one 'long-answer' question (20 marks); all questions are compulsory
- Each examination paper covers the whole unit syllabus
- Candidate scripts are marked by external examiners appointed by NEBOSH
- A sample examination paper can be found in Section 5.

Unit FC2: Fire safety practical application

- Unit FC2 is assessed by a practical application which is carried out in the candidate's own workplace
- This is held on a date set by the accredited course provider and must be taken within 10 working days of a written examination
- The practical examination is internally assessed by the accredited course provider and externally moderated by NEBOSH
- Guidance for candidates and accredited course providers is available in a separate document available on the NEBOSH website (www.nebosh.org.uk).

NB: For candidates planning to take two or all 3 units together, Unit FC2 (Fire safety practical application) is not normally offered independently of the taught units (Units NGC1 and FC1). Candidates will normally be required to complete the Unit FC2 assessment within 10 working days of sitting the examination for Unit NGC1 and/or FC1, on a date to be agreed with their accredited course provider.

NEBOSH applies best practise in relation to assessment setting and marking. NEBOSH uses external assessment for written examinations and assignments: scripts are sent to NEBOSH and undergo rigorous marking, checking and results determination processes to ensure accuracy and consistency.

For more information on the assessment feedback provided for this qualification, please visit the NEBOSH website: https://www.nebosh.org.uk/faqs/how-can-i-gain-feedback-on-my-performance-to-assist-with-future/

2.2 Unit exemptions

Exemptions for the following units are available:

- Unit NGC1: Management of health and safety
- Unit FC2: Fire safety practical application

Exemptions are allowable for a set time period, usually 5-years. Candidates/accredited course providers ***must***, therefore, refer to the NEBOSH website (www.nebosh.org.uk) for an up-to-date list of applicable exemptions and the rules for use of the exemptions.

2.3 Achieving the qualification

Candidates will need to pass **all three units** within a **five year** period to achieve the qualification. The five years commences from the result declaration date of the first successful unit.

2.4 Unit pass standard

The provisional pass mark for units NGC1 and FC1 is 45%, and 60% for unit FC2.

More information on how provisional marks are set can be found in our FAQs: https://www.nebosh.org.uk/faqs/how-does-nebosh-set-the-pass-mark-for-each-assessment/.

2.5 Unit certificates

Candidates who are successful in an individual unit will be issued with a unit certificate, normally within 40 working days of the issue of the result notification. Units are not graded and the unit certificates will show a 'Pass' only.

2.6 Qualification grade

When candidates have been awarded a unit certificate for all three units (ie, have achieved a Pass in units NGC1, FC1 and FC2), the marks are added together and a final grade is awarded as follows:

Pass	150 - 179 marks
Credit	180 - 209 marks
Distinction	210 marks or more

2.7 Qualification parchment

Once a candidate has achieved a Pass in all three units and the overall qualification grade awarded they are normally considered to have completed the qualification and an overall qualification parchment will be issued, within 40 working days of the result declaration date for the third successfully completed unit.

However, once the result of the third successfully completed unit has been issued the candidate has **20 working days** from the date of issue of that result to either:

- Inform NEBOSH in writing of their intention to re-sit a successful unit for the purposes of improving a grade*
- Submit an Enquiry About Result (EAR) request (see Section 3.3).

* In the event that the candidate does not re-sit the unit(s) as intended, on expiry of the units (five years from the declaration date of the first successful unit), a qualification parchment will automatically be issued showing the original declaration date.

2.8 Re-sitting examinations

If a candidate's performance in a unit is lower than a pass, the candidate may re-sit just the unit in which they have been unsuccessful providing that they re-sit **within 5-years of the result declaration date for their first successful unit** (also see Section 2.3). Where a candidate has yet to achieve a successful unit of a qualification, the 5-year rule does not apply until a unit has been successfully achieved.

Candidates who wish to improve the mark from a unit they have successfully passed in order to improve their qualification grading to a credit or distinction, may do so providing that they re-sit the unit/s within the qualifying period (see section 2.3). The candidate must notify NEBOSH in writing if they wish to do this (see section 2.7). Any candidate who re-sits a successful unit, and does not surpass their original mark, eg, is referred in the paper, will keep the *original* mark awarded. Re-sit marks are not capped. There is no limit to the number of re-sits within this five year period.

Candidates who register for any unit of the National Certificate in Fire Safety and Risk Management whilst awaiting a result from a previous sitting of an examination for the same qualification may not seek a refund of the registration fee if they retrospectively claim exemption from any part of the qualification, subsequent to the issue of the awaited result.

3. Policies

3.1 Requests for access arrangements/reasonable adjustments

Access arrangements and reasonable adjustments are modifications which are approved in advance of an examination to allow attainment to be demonstrated by candidates with either a permanent or long-term disability or learning difficulty, or temporary disability, illness or indisposition.

Requests for access arrangements/reasonable adjustments must be made to NEBOSH by accredited course providers at least one month before the assessment.

For further details see the NEBOSH *"Policy and procedures for access arrangements, reasonable adjustments and special consideration"* available from the NEBOSH website (www.nebosh.org.uk).

3.2 Requests for special consideration

Special consideration is a procedure that may result in an adjustment to the marks of candidates who have not been able to demonstrate attainment because of temporary illness, injury, indisposition or an unforeseen incident at the time of the assessment.

Candidates who feel disadvantaged due to illness, distraction or any other reason during the assessment must report this to the invigilator (or the accredited course provider in the case of a practical examination) before leaving the examination room and request that their written statement, together with the invigilator's comments on the statement, be sent by the accredited course provider to NEBOSH.

Requests for special consideration must be made to NEBOSH by the accredited course provider as soon as possible and no more than seven working days after the assessment.

For further details see the NEBOSH *"Policy and procedures for access arrangements, reasonable adjustments and special consideration"* available from the NEBOSH website (www.nebosh.org.uk).

3.3 Enquiries about results and appeals

NEBOSH applies detailed and thorough procedures to moderate and check assessment results before they are issued. It thereby ensures that the declared results are a fair and equitable reflection of the standard of performance by candidates.

There are, however, procedures for candidates or accredited course providers to enquire about results that do not meet their reasonable expectations. An 'enquiry about result' (EAR) must be made in writing within one month of the date of issue of the result to which it relates.

For details see the NEBOSH *"Enquiries and appeals policy and procedures"* document available from the NEBOSH website (www.nebosh.org.uk).

3.4 Malpractice

Malpractice is defined as any deliberate activity, neglect, default or other practice by candidates and/or accredited course providers that compromise the integrity of the assessment process, and/or the validity of certificates. Malpractice may include a range of issues from collusion or use of unauthorised material by candidates, to the failure to maintain appropriate records or systems by accredited course providers, to the deliberate falsification of records in order to claim certificates. Failure by an accredited course provider to deal with identified issues may in itself constitute malpractice.

For further details see the NEBOSH *"Malpractice policy and procedures"* document available from the NEBOSH website (www.nebosh.org.uk).

4. Notes for tutors

4.1 Tutor references

Tutor references are given at the end of each unit and are split between statutory provisions and guidance documents. These references are given to aid tutors with the teaching of the syllabus content; they are not an exhaustive list and tutors can use other references to those quoted in the syllabus.

4.2 Teaching of units

Although the syllabus sets out the Units and Elements in a specific order, tutors can teach the Units and Elements in any order they feel is appropriate. Course providers will need to reflect this in the timetables which are submitted for approval as part of the accreditation/re-accreditation process.

4.3 Conflict of interest

Accredited Course Provider staff including Head of Accredited Course Providers, Tutors, Administrators, Examinations Officers and Invigilators must declare in writing to NEBOSH any employment and/or familial, spousal or other close personal relationship with any examination or assessment candidate. Further information can be found in the '*Instructions for Conducting Examinations*' document.

4.4 Minimum standard of English required for tutors

Tutors who are based overseas and wish to deliver the NEBOSH National Certificate in Fire Safety and Risk Management must have a good standard of English. They must be able to articulate the concepts contained in the syllabus. The accredited course provider must provide evidence of the tutor's standard of English when submitting the tutor's CV for approval.

NEBOSH's requirement is for tutors delivering this qualification to have reached a minimum standard of English *equivalent* to an International English Language Testing System score of **7.0** or higher in IELTS tests.

5. Syllabus - NEBOSH National Certificate in Fire Safety and Risk Management (November 2014 specification)

Structure

The qualification is divided into three units. Unit NGC1 is further divided into five elements and Unit FC1 into six elements.

The following matrix indicates how the syllabus elements map to the relevant National Occupational Standards (See also section 1.11):

- National Occupational Standards (NOS) for Health and Safety (Standalone units) published in 2011 by Proskills Sector Skills Council
- NOS for Fire Safety 2010 published by Skills for Justice Sector Skills Council.

The NOS can be downloaded from https://www.ukstandards.org.uk/Pages/index.aspx.

The matrix also indicates how the syllabus elements map to the 'Competency Criteria for Fire Risk Assessors' produced by the Fire Risk Assessment Competency Council which was published in February 2013.

Unit NGC1: Management of health and safety

Element Number	***Element Title***	***Recommended Hours***	***Proskills units/ Elements***	***Skills for Justice units/ Elements***	***Fire criteria Appendix***	***Page***
1	Foundations in health and safety	7	PROHSS1-3, 5-6	*N/A*	*A, B, G*	16
2	Health and safety management systems - Plan	3	*PROHSS2-3, 5*	*N/A*	*N/A*	21
3	Health and safety management systems - Do	17	PROHSS1-3, 6	*N/A*	*N/A*	23
4	Health and safety management systems - Check	5	PROHSS1-3, 5, 6, 8	*N/A*	*N/A*	26
5	Health and safety management systems - Act	4	*PROHSS1-3, 8*	*N/A*	*N/A*	30
	Minimum unit tuition time	***36***				
	Recommended private study time	***23***				

Unit FC1: Fire safety and risk management

Element Number	***Element Title***	***Recommended Hours***	***Proskills units/ Elements***	***Skills for Justice units/ Elements***	***Fire criteria Appendix***	***Page***
1	Managing fire safety	7	*PROHSS2-3*	*FS1-9*	*Definitions B, B1, B2, B3, C, I*	33
2	Principles of fire and explosion	3		*FS1-2*	*D, I*	37
3	Causes and prevention of fires and explosions	4		*FS1-2, FS6, FS8*	*A, B, D, I*	40
4	Fire protection in buildings	7		*FS3, FS6-9*	*Definitions B, D, F, G, H H1, H2, I*	43
5	Safety of people in the event of a fire	3		*FS3*	*E, F, H2, I*	47
6	Fire risk assessment	5	PROHSS6	*FS1-3, FS6-9*	*Definitions A, B1, B2, B3, D E, G, H, I*	50
	Minimum unit tuition time	***29***				
	Recommended private study time	***24***				

Unit FC2: Fire safety practical application

Element Number	***Element Title***	***Recommended Hours***	***Proskills units/ Elements***	***Skills for Justice units/ Elements***	***Fire criteria Appendix***	***Page***
	Fire safety practical application	4	*HSS1-6, 8-9*	*FS1-3, FS6-0*	*A, B, H, I*	54
	Minimum unit tuition time	***4***				
	Recommended private study time	***4***				
	Minimum total tuition time	***69***				
	Recommended total private study time	***51***				

5.1 Unit NGC1: Management of health and safety

Element 1: Foundations in health and safety

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:

1.1 Outline the scope and nature of occupational health and safety

1.2 Explain the moral and financial reasons for promoting good standards of health and safety in the workplace

1.3 Explain the legal framework for the regulation of health and safety including sources and types of law

1.4 Explain the scope, duties and offences of employers, managers, employees and others under the Health and Safety at Work etc. Act 1974

1.5 Explain the scope, duties and offences of employers, managers, employees and others under the Management of Health and Safety at Work Regulations

1.6 Outline the legal and organisational health and safety roles and responsibilities of clients and their contractors

1.7 Outline the principles of assessing and managing contractors.

Content

1.1 The scope and nature of occupational health and safety

- The multi-disciplinary nature of health and safety; the barriers to good standards of health and safety (complexity, competing and conflicting demands, behavioural issues)
- Meanings and distinctions between:
  - health, safety and welfare.

1.2 The moral and financial reasons for promoting good standards of health and safety

- The size of the health and safety ‘problem’ in terms of the numbers of work-related fatalities and injuries and incidence of ill-health
- Societal expectations of good standards of health and safety
- The business case for health and safety: insured and uninsured costs of accidents and ill-health; employers’ liability insurance.

1.3 The legal framework for the regulation of health and safety including sources and types of law

- The influence and role of the European Union in harmonising health and safety standards

- Meaning of Criminal law
  - offence against the state
  - prosecution to establish guilt
  - burden of proof with reference to S40 Health and Safety at Work etc. Act 1974 (onus of proving limits of what is practicable, etc)
- Meaning of Statute law
  - Acts of Parliament, Health and Safety at Work etc. Act 1974, health and safety regulations, approved codes of practice, official guidance: their relationship and status
  - absolute and qualified duties (practicable and reasonably practicable)
  - relevance to criminal and civil law
- The structure and role of criminal courts and the penalties they can impose
- Criminal law liabilities
  - role, functions and powers of enforcement authorities, the courts and other associated bodies: Health and Safety Executive (HSE)/HSE Northern Ireland (HSENI); local authority; fire and rescue service; Procurators Fiscal in Scotland (including homicide/corporate homicide); Office of Rail Regulation (ORR); Crown Prosecution Service (CPS) (for manslaughter / corporate manslaughter); insurance companies; Environment Agency/Scottish Environment Protection Agency/Northern Ireland Environment Agency
  - Fees for Intervention (FFI) – with reference to the Health and Safety (Fees) Regulations 2012
  - powers of inspectors under the Health and Safety at Work etc. Act 1974:
    - enforcement notices (improvement, prohibition): conditions for serving; effects; procedures; rights and effects of appeal; penalties for failure to comply
    - simple cautions
  - prosecution: summary and indictable (solemn in Scotland) offences
  - the Corporate Manslaughter and Corporate Homicide Act 2007: the offence and available penalties
  - defences
- Meaning of Common law
  - precedents and case law
  - the importance of common law
  - relevance to criminal and civil law
- Meaning of Civil law
  - from the private individual seeking compensation
  - burden of proof
  - statute-barred
- The structure and role of civil courts and the types of remedy they can impose
- The role of employment tribunals
- Civil law liabilities
  - civil wrong (tort/delict)
  - tort/delict of negligence
  - duty of care (neighbour principle)
  - tests and defences for tort/delict of negligence: duty owed / duty breached / injury or damage sustained

- contributory negligence
- vicarious liability
- the employer's civil common law duty to provide a safe place of work, safe plant and equipment, safe systems of work, training and supervision, and competent employees
- breach of statutory duty in relation to new and expectant mothers.

1.4 The scope, duties and offences of employers, managers, employees and others under the Health and Safety at Work etc. Act 1974

- Scope: covers all workplaces, work activities, employed and self-employed with reference to:
  - general duties of employers to their employees
  - the health, safety and welfare of employees and the health and safety of those affected by work activities (eg client, visitors, contractors, the public)
  - the provision and maintenance of safe plant and systems of work
  - safe use, handling, storage and transport of articles and substances
  - the provision of information, instruction, training and supervision
  - safe place of work
  - safe access and egress
  - adequate welfare facilities
  - legal duty to prepare a safety policy
  - appointment of safety representatives
  - duty to consult
- General duties of employers and self-employed to persons other than their employees
- General duties of persons concerned with premises to persons other than their employees
- General duties of manufacturers etc as regards articles and substances for use at work
- General duties of employees at work:
  - to take reasonable care for the health and safety of themselves and of other persons who may be affected by their acts or omissions at work
  - to co-operate with employer
- General duties of all persons
  - duty not to interfere with or misuse things provided for health and safety at work
- Duty not to charge employees for things done or provided for health and safety at work
- Offences due to fault of other person
- Offences by bodies corporate
  - consent or connivance or neglect on the part of, any director, manager, secretary or other similar officer of the body corporate.

1.5 The scope, duties and offences of employers, managers, employees and others under the Management of Health and Safety at Work Regulations

- Scope
- Risk assessment
- Principles of prevention to be applied
- Health and safety arrangements
- Health and safety assistance
- Procedures for serious and imminent danger and for danger areas
- Information for employees
- Co-operation and co-ordination where two or more employers share a workplace
- Ensuring employees are provided with adequate health and safety training
- Employees' duties
- Employee to work in accordance with any training
- Employee to inform employer of any work situation which represents a serious and immediate danger to health and safety; and any shortcoming in the employer's protection arrangements for health and safety
- Temporary workers
- Risk assessment in respect of new or expectant mothers
- Protection of young persons.

1.6 The legal and organisational health and safety roles and responsibilities of clients and their contractors

- Relationship between client and contractor
- Duties each has to the other and to the other’s employees
- Effective planning and co-ordination of contracted work, including interaction with existing staff
- Management controls that must be applied for significant construction projects:
  - duties and responsibilities of the Client, Principal Designer, Principal Contractor, Contractors, Workers and Domestic Clients
- HSE notification, health and safety plan, health and safety file.

1.7 The principles of assessing and managing contractors (links to 1.4)

- Scale of contractor use
- Pre-selection and management of contractors
- Contractor responsibilities.

Recommended tuition time not less than 7 hours

Element 2: Health and safety management systems – Plan

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:

2.1 Outline the key elements of a health and safety management system

2.2 Explain the purpose and importance of setting policy for health and safety

2.3 Describe the key features and appropriate content of an effective health and safety policy.

Content

2.1 Key elements of a health and safety management system

- The HSE's Managing for health and safety (HSG65)
  - Plan
  - Do
  - Check
  - Act
- ISO45001:2018: Occupational health and safety management systems (H&SMS)
  - context of the organisation (H&SMS framework)
  - leadership and worker participation (H&SMS framework)
  - planning (Plan)
  - support (Do)
  - operation (Do)
  - performance evaluation (Check)
  - improvement (Act)

2.2 Purpose and importance of setting policy for health and safety

- The role of the health and safety policy in decision-making and the differing needs of individual organisations
- Legal duties
  - duty to prepare a safety policy (linked to 1.4)
  - when to record in writing.

2.3 Key features and appropriate content of an effective health and safety policy

- Stating the overall aims of the organisation in terms of health and safety performance :
  - general statement of intent
  - setting overall objectives and quantifiable targets (specific, measurable, achievable, reasonable, timebound SMART principles)
  - basic concept of benchmarking
  - views of interested parties
  - technological options
  - financial, operational and business requirements
  - signatory to statement

- Defining the health and safety roles and responsibilities of individuals within the organisation
  - organising for health and safety: allocation of responsibilities; lines of communication and feedback loops; the role of line managers in implementing and influencing the health and safety policy and monitoring its effectiveness

- Specifying the arrangements for achieving general and specific aims:
  - health and safety arrangements: the importance of specifying the organisation's arrangements for planning and organising, controlling hazards, consultation, communication and monitoring compliance with, and assessing the effectiveness of, the arrangements to implement the health and safety policy

- Circumstances that may lead to a need to review the health and safety policy in order to maintain currency and effectiveness (eg, technological, organisational or legal changes).

Recommended tuition time not less than 3 hours

Element 3: Health and safety management systems - Do

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:

3.1 Outline the organisational health and safety roles and responsibilities of employers, directors, managers and supervisors

3.2 Explain the concept of health and safety culture and its significance in the management of health and safety in an organisation

3.3 Outline the human factors which influence behaviour at work in a way that can affect health and safety

3.4 Explain how health and safety behaviour at work can be improved

3.5 Explain the principles and practice of risk assessment

3.6 Explain the general principles of prevention

3.7 Identify the key sources of health and safety information

3.8 Explain what factors should be considered when developing and implementing a safe system of work for general activities

3.9 Explain the role and function of a permit-to-work system.

3.10 Outline the need for emergency procedures and the arrangements for contacting emergency services

3.11 Outline the requirements for, and effective provision of, first aid in the workplace.

Content

3.1 Organisational health and safety roles and responsibilities of employers, directors, managers and supervisors

- Organisational roles of directors / managers / supervisors
- Senior management demonstrating commitment by:
  - ensuring availability of resources so the occupational health and safety management system is established, implemented and maintained
  - defining roles and responsibilities
  - appointing member of senior management with specific responsibility for health and safety
  - appointing one or more competent persons and adequate resources to provide assistance in meeting the organisation's health and safety obligations including specialist help where applicable (link 1.5)
  - engagement and management of contractors (link 1.6)
  - role in reviewing health and safety performance.

3.2 Concept of health and safety culture and its significance in the management of health and safety in an organisation

- Meaning and extent of the term 'health and safety culture'
- Relationship between health and safety culture and health and safety performance
- Indicators which could be used to assess the effectiveness of an organisation's health and safety culture:
  - tangible outputs or indicators of an organisation's health and safety culture (eg accidents, absenteeism, sickness rates, staff turnover, level of compliance with health and safety rules and procedures, complaints about working conditions)
- Influence of peers.

3.3 Human factors which influence behaviour at work

- Organisational factors:
  - eg culture, leadership, resources, work patterns, communications
- Job factors:
  - eg task, workload, environment, display and controls, procedures
- Individual factors:
  - eg competence, skills, personality, attitude and risk perception
- Link between individual, job and organisational factors.

3.4 How health and safety behaviour at work can be improved

- Securing commitment of management
- Promoting health and safety standards by leadership and example and appropriate use of disciplinary procedures
- Competent personnel with relevant knowledge, skills and work experience
- Identifying and keeping up to date with legal requirements
- Effective communication within the organisation:
  - merits and limitations of different methods of communication (verbal, written and graphic)
  - use and effectiveness of notice boards and health and safety media such as films, digital media, company intranet, posters, toolbox talks, memos, employee handbooks
  - co-operation and consultation with the workforce and contractors where applicable (roles and benefits of employee participation, safety committees and employee feedback)
- Duties to consult; appointment, functions and entitlements of employee representatives (trade union-appointed and elected); safety committees (legal requirement, typical constitution, requirements for / ways to promote effectiveness)
- Training:
  - the effect of training on human reliability

- opportunities and need for training provision (induction and key health and safety topics to be covered, job change, process change, introduction of new legislation, introduction of new technology).

3.5 Principles and practice of risk assessment

- With reference to legal requirements (Element 1)
- Meaning of hazard and risk and risk assessment:
  - hazard: 'something with the potential to cause harm (this can include articles, substances, plant or machines, methods of work, the working environment and other aspects of work organisation)'
  - risk: 'the likelihood of potential harm from that hazard being realised'
  - risk assessment: 'identifying preventive and protective measures by evaluating the risk(s) arising from a hazard(s), taking into account the adequacy of any existing controls, and deciding whether or not the risk(s) is acceptable'
- Objectives of risk assessment; prevention of workplace accidents
- Risk assessors:
  - composition of risk assessment team
  - competence
- Criteria for a 'suitable and sufficient' risk assessment
- Identification of hazards
  - sources and form of harm; task analysis, legislation, manufacturers' information, incident data
- Identifying population at risk:
  - employees, operators, maintenance staff, cleaners, contractors, visitors, public, etc
- Evaluating risk and adequacy of current controls:
  - likelihood of harm and probable severity
  - risk rating
  - apply the general hierarchy of control with reference to ISO45001:2018, requirement 8.1.2 (links with 3.6)
  - application based on prioritisation of risk
  - use of guidance; sources and examples of legislation
  - applying controls to specified hazards
  - residual risk; acceptable / tolerable risk levels
  - distinction between priorities and timescales
- Recording significant findings:
  - format; information to be recorded
- Reviewing: reasons for review (eg incidents, process/equipment/staff/legislative changes; passage of time)
- Special case applications to young persons, expectant and nursing mothers also consideration of disabled workers and lone workers.

3.6 General principles of prevention

- General principles of prevention with reference to Regulation 4 and Schedule 1 of the Management of Health and Safety at Work Regulations 1999:
  - avoiding risks
  - evaluating the risks which cannot be avoided
  - combating the risk at source
  - adapting the work to the individual especially with regards to design of workplace, the choice of work equipment, and the choice of working and production methods, with a view, in particular, to alleviating monotonous work and work at a predetermined work-rate and to reducing their effect on health;
  - adapting to technical progress
  - replacing the dangerous by the non-dangerous or the less dangerous
  - developing an overall coherent prevention policy which covers technology, organisation of work, working conditions, social relationships and the influence of factors relating to the working environment;
  - giving collective protective measures priority over individual protective measures; and
  - giving appropriate instructions to employees.

3.7 Sources of health and safety information

- Internal to the organisation (eg, accident/ill health/absence records, inspection, audit and investigation reports, maintenance records)
- External to the organisation (eg, manufacturers' data, legislation, EU (European Union) HSE (Health and Safety Executive) and its publications, trade associations; International, European and British Standards, ILO (International Labour Organisation) and other authoritative texts, IT sources.

3.8 Factors that should be considered when developing and implementing a safe system of work for general work activities

- Employer's duty to provide safe systems of work
- Role of competent persons in the development of safe systems
- Importance of employee involvement in the development of safe systems
- Importance and relevance of written procedures
- The distinction between technical, procedural and behavioural controls
- Development of a safe system of work
- Analysing tasks, identifying hazards and assessing risks
- Introducing controls and formulating procedures
- Instruction and training in the operation of the system
- Monitoring the system

- Definition of and specific examples of safe systems of work for:
  - confined spaces
  - lone working (including travelling away from the employee's usual place of work)

3.9 Role and function of a permit-to-work system

- Meaning of a permit-to-work system
- Role and function
- Operation and application of a permit-to-work system
- Circumstances in which a permit to work system may be appropriate, with reference to: hot work, work on non-live electrical systems, machinery maintenance, confined spaces, work at height.

3.10 Emergency procedures and the arrangements for contacting emergency services

- Importance of developing emergency procedures
- What needs to be included in an emergency procedure
  - why an emergency procedure is required
  - size and nature of potential emergencies and the consequences if they occur
  - procedures for raising the alarm
  - action of the employees on site
  - dealing with the media
  - arrangements for contacting emergency and rescue services
- Importance of training and testing emergency procedures.

3.11 Requirements for, and effective provision of, first-aid in the workplace

- First-aid requirements
- Role, training and number of first-aiders and appointed persons
- Requirements for first-aid boxes
- Coverage in relation to shift work and geographical location.

Recommended tuition time not less than 17 hours

Element 4: Health and safety management systems – Check

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:

4.1 Outline the principles, purpose and role of active and reactive monitoring

4.2 Explain the purpose of, and procedures for, investigating incidents (accidents, cases of work-related ill-health and other occurrences)

4.3 Describe the legal and organisational requirements for recording and reporting incidents

Content

4.1 Active and reactive monitoring

- Active monitoring procedures including the monitoring of performance standards and the systematic inspection of plant and premises
- Role of safety inspections, sampling, surveys and tours and their roles within a monitoring regime
- Factors governing frequency and type of inspection; competence and objectivity of inspector; use of checklists; allocation of responsibilities and priorities for action
- Effective report writing: style, structure, content, emphasis, persuasiveness etc
- Reactive monitoring measures including data on accidents, dangerous occurrences, near misses, ill-health, complaints by workforce and enforcement action.

4.2 Investigating incidents

- Function of incident investigation as a reactive monitoring measure
- Distinction between different types of incident: ill-health, injury accident, dangerous occurrence, near-miss, damage-only; typical ratios of incident outcomes and their relevance in terms of the proportion of non-injury events; utility and limitations of accident ratios in accident prevention (Bird's triangle)
- Basic incident investigation procedures
- Interviews, plans, photographs, relevant records, checklists
- Immediate causes (unsafe acts and conditions) and root causes (management systems failures)
- Remedial actions.

4.3 Recording and reporting incidents

- Typical examples of major injuries, diseases and dangerous occurrences
- Statutory requirements for recording and reporting incidents
- Additional organisational requirements for recording and reporting incidents
- Accident Book
- The requirement for recording and procedure for reporting fatalities, specified injuries, 'over 3 or 7-day injuries', disease and dangerous occurrences
- Internal systems for collecting, analysing and communicating data
- Collection of relevant information and its availability in a civil claim
- Lessons learnt.

Recommended tuition time not less than 5 hours

Element 5: Health and safety management systems – Act

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:

5.1 Explain the purpose of, and procedures, for health and safety auditing

5.2 Explain the purpose of, and procedures for, regular reviews of health and safety performance.

Content

5.1 Health and safety auditing

- Meaning of the term 'health and safety audit'
- Scope and purpose of auditing health and safety management systems; distinction between audits and inspections
- Pre-audit preparations, information gathering, notifications and interviews, selection of staff, competence of auditors, time, resources
- Responsibility for audits
- Advantages and disadvantages of external and internal audits
- Actions taken following audit (eg, correcting nonconformities).

5.2 Review of health and safety performance

- Purpose of reviewing health and safety performance
- Who should take part in review
- Review at planned intervals
- Assessing opportunities for improvement and the need for change
- Review to consider:
  - evaluations of compliance with applicable legal and organisational requirements
  - accident and incident data, corrective and preventive actions
  - inspections, surveys, tours and sampling
  - absences and sickness
  - quality assurance reports
  - audits
  - monitoring data/records/reports
  - external communications and complaints
  - results of participation and consultation
  - objectives met
  - actions from previous management reviews
  - legal / good practice developments
- Maintenance of records of management review

- Reporting on health and safety performance
- Feeding into action and development plans as part of continuous improvement
- Role of Boards, Chief Executive/Managing Director and Senior Managers.

Recommended tuition time not less than 4 hours

Unit NGC1: Tutor References

Statutory instruments

Legislation	Country	Element/s
Confined Space Regulations 1997	UK / Great Britain	3
Construction (Design and Management) Regulations 2015	UK / Great Britain	1
Corporate Manslaughter and Corporate Homicide Act 2007	UK / Great Britain	1, 3
Deregulation Act 2015 (Section 1)	UK / Great Britain	1
Employers' Health and Safety Policy Statements (Exceptions) Regulations 1975	UK / Great Britain	2
Employers' Liability (Compulsory Insurance) Regulations 1998 (as amended)	UK / Great Britain	1
Enterprise and Regulatory Reform Act 2013 (Section 69)	UK / Great Britain	1
Health and Safety at Work etc Act 1974	UK / Great Britain	1, 2, 3
Health and Safety at Work etc Act 1974 (Civil Liability) (Exceptions) Regulations 2013	UK / Great Britain	1
Health and Safety at Work etc Act 1974 (General Duties of Self-Employed Persons) (Prescribed Undertakings) Regulations 2015	UK / Great Britain	1
Health and Safety (Consultation with Employees) Regulations 1996	UK / Great Britain	3
Health and Safety (Fees) Regulations 2012	UK / Great Britain	1
Health and Safety (First Aid) Regulations 1981 (as amended)	UK / Great Britain	3
Health and Safety Information for Employees Regulations 1989 (as amended)	UK / Great Britain	3
Interpretation Act 1978	UK / Great Britain	1
Legal Aid, Sentencing and Punishment of Offenders Act 2012	UK / Great Britain	1
Legal Aid, Sentencing and Punishment of Offenders Act 2012 (Fines on Summary Conviction) Regulations 2015	UK / Great Britain	1
Management of Health and Safety at Work Regulations 1999 (as amended)	UK / Great Britain	1 - 5
Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013	UK / Great Britain	4
Safety Representatives and Safety Committee Regulations 1977	UK / Great Britain	3
Social Action, Responsibility and Heroism Act 2015	UK / Great Britain	1
Confined Space Regulations (Northern Ireland) 1999	Northern Ireland	3
Construction (Design and Management) Regulations (Northern Ireland) 2016	Northern Ireland	1
Employers' Liability (Compulsory Insurance) Regulations (Northern Ireland) 1999	Northern Ireland	1

Legislation	Country	Element/s
Health and Safety (Consultation with Employees) Regulations (Northern Ireland) 1996	Northern Ireland	3
Health and Safety (Fees) Regulations (Northern Ireland) 2012	Northern Ireland	1
Interpretation Act (Northern Ireland) 1954	Northern Ireland	1
Management of Health and Safety at Work Regulations (Northern Ireland) 2000 (as amended)	Northern Ireland	1 – 5
Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (Northern Ireland) 1997 (as amended)	Northern Ireland	4
Inquiries into Fatal Accidents and Sudden Deaths etc (Scotland) Act 2016	Scotland	1

Other relevant references

Reference title	Reference detail eg ISBN number	Element/s
About sentencing, information and videos explaining how sentences are worked out	Sentencing Council	1
Bird F E, 1974. Management guide to Loss Control, Institute Press, Atlanta, Georgia, USA		3
Consulting workers on health and safety, Safety Representatives and Safety Committee Regulations 1977 (as amended) and Health and Safety (Consultation with Employees) Regulations 1996 (as amended), L146	HSE Books, ISBN: 978-0-7176-6461-0	3
Electricity at work, safe working practices, HSG85	HSE Books, ISBN: 978-0-7176-6581-5	5
Emergency procedures, HSE website guidance	http://www.hse.gov.uk/toolbox/managing/emergency.htm	3
First aid at work, L74, third edition (amended 2018)	HSE Books, ISBN: 978-0-7176-6560-0	3
Guidance on permit-to-work systems. A guide for the petroleum, chemical and allied industries, HSG250	HSE Books, ISBN: 978-0-7176-2943-5	3
Guidance on the application of Fees for Intervention (FFI), HSE47	HSE Books, ISBN: 978-0-7176-6456-6	1
Health and safety made simple, INDG449	HSE Books	2
HSE's Managing for health and safety	Managing for health and safety	1 - 5
HSE's The Health and Safety Toolbox: how to control risks at work	The health and safety toolbox	1 - 5
Human factors and ergonomics	http://www.hse.gov.uk/humanfactors/	3
Human factors: Permit to work systems	Human factors/PTW	3
Investigating Incident and Accidents at Work, HSG245	HSE Books	4
Involving your workforce in health and safety, HSG263	HSE Books, ISBN: 978-0-7176-6227-2	3

Reference title	Reference detail eg ISBN number	Element/s
Leading health and safety at work, INDG417	HSE Books	1, 3
Managing for health and safety, HSG65	HSE Books, ISBN: 978-0-7176-6456-6	1 - 5
Managing Health and Safety in Construction, Construction (Design and Management) Regulations 2015, Guidance on regulations, L153	HSE Books, ISBN: 978-0-7176-6623-3	1
Manslaughter, Definitive Guideline	Published by the Sentencing Council	1
New and expectant mothers, HSE website guidance	http://www.hse.gov.uk/mothers/	3
Occupational health and safety management systems – requirements with guidance for use	ISO 45001:2018 ISBN: 978-0-580-86393-6	2, 3
Plan, Do, Check, Act, An introduction to managing for health and safety, INDG275	HSE Books	2
Reducing error and influencing behaviour, HSG48	HSE Books, ISBN: 978-0-7176-2452-2	3
Reporting accidents and incidents at work, INDG453	HSE Books,	4
Risk assessment, A brief guide to controlling risks in the workplace, INDG163	HSE Books	3
Safe work in confined spaces, L101	HSE Books, ISBN: 978-0-71766233-3	3
Sentencing Council, Health and Safety Offences, Corporate Manslaughter and Food Safety and Hygiene Offences, Definitive Guideline	Sentencing Council	1
The health and safety toolbox, How to control risks at work, HSG268	HSE Books, ISBN: 978-0-7176-6587-7	1 - 5
The Construction (Design and Management) Regulations 2015, Industry guidance for Clients	Produced by CONIAC, published by CITB, ISBN: 978-1-85751-389-9	1
The Construction (Design and Management) Regulations 2015, Industry guidance for Principal Designers	Produced by CONIAC, published by CITB, ISBN 978-1-85751-390-5	1
The Construction (Design and Management) Regulations 2015, Industry guidance for Designers	Produced by CONIAC, published by CITB, ISBN 978-1-85751-393-6	1
The Construction (Design and Management) Regulations 2015, Industry guidance for Principal Contractors	Produced by CONIAC, published by CITB, ISBN 978-1-85751-393-6	1
The Construction (Design and Management) Regulations 2015, Industry guidance for Contractors	Produced by CONIAC, published by CITB, ISBN: 978-1-85751-391-2	1
The Construction (Design and Management) Regulations 2015, Industry guidance for Workers	Produced by CONIAC, published by CITB, ISBN 978-1-85751-394-3	1
When a health and safety inspector calls, what to expect when we visit your premises, HSC14	HSE Books	1
Young people and work experience, INDG364	HSE Books	3

5.2 Unit FC1: Fire safety and risk management

Element 1: Managing fire safety

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:

1.1 Outline the moral, legal and financial consequences of inadequate management of fire safety

1.2 Outline the legal framework for the regulation of fire safety in new, altered and existing buildings (including government guidance)

1.3 Describe the roles and powers of enforcement agencies and other external agencies in relation to fire safety

1.4 Outline the key features of a fire safety policy

1.5 Outline the main sources of external fire safety information and the principles of their application

1.6 Explain the purpose of, and the procedures for, investigating fires in the workplace

1.7 Explain the legal and organisational requirements for recording and reporting fire related incidents.

Content

1.1 The moral, legal and financial consequences of inadequate management of fire safety

- Financial implications of false alarms (such as possible penalties that may be imposed, business interruption, etc)
- The size of the fire safety 'problem' in terms of the numbers of fire-related fatalities and injuries and environmental damage
- The duty of care owed by the occupier of a building
- Costs of inadequate management of fire safety including loss of business continuity.

1.2 The legal framework for the regulation of fire safety in new, altered and existing buildings

- Regulatory Reform (Fire Safety) Order 2005 (or alternative related local Statutory Instrument, eg, Part 3 of the Fire (Scotland) Act 2005 and Fire Safety (Scotland) Regulations 2006, Fire and Rescue Services (Northern Ireland) Order 2006 and the Fire Safety Regulations (Northern Ireland) 2010), fire safety regulations (when made under the Regulatory Reform (Fire Safety Order 2005)), the Home Office practical fire safety guidance: their relationships and relative status or alternative related local guidance, eg, Scottish Government's sector specific guidance

- Meaning of, and duties of, ‘responsible person’ under the Regulatory Reform (Fire Safety) Order 2005 or alternatively duties of employers and duties in relation to relevant premises under the Fire (Scotland) Act 2005 or the Fire and Rescue Services (Northern Ireland) Order 2006
- Absolute and qualified duties: 'reasonably practicable'.

1.3 The roles and powers of enforcement agencies and other external agencies in relation to fire safety

- Fire and Rescue Authority, Northern Ireland Fire and Rescue Service, Health and Safety Executive, local authorities, Fire service maintained by the Secretary of State for Defence, fire inspector authorised by the Secretary of State, Environment Agency / Scottish Environmental Protection Agency, Northern Ireland Environment Agency and insurance companies
- The powers of inspectors under the Regulatory Reform (Fire Safety) Order 2005 or alternatively under the Fire (Scotland) Act 2005 or the Fire and Rescue Services (Northern Ireland) Order 2006
- The powers of authorised officers under the Fire and Rescue Services Act 2004, or alternatively under the Fire (Scotland) Act 2005 or the Fire and Rescue Services (Northern Ireland) Order 2006 to enter premises in an emergency for fire-fighting, to obtain information for the purpose of investigating the causes of a fire and the reason for its progression
- Enforcement; notices (alterations, enforcement, prohibition):
  - conditions for serving
  - effects
  - procedures
  - rights and effects of appeal
  - role of magistrates court
  - penalties for failure to comply.

1.4 The key features of a fire safety policy

- Responsibility for fire safety within an organisation and the arrangements for ensuring fire safety. To include arrangements for:
  - planning
  - organisation
  - control
  - monitoring
  - review
  - arrangements for vulnerable people
  - degraded systems planning.

1.5 Main sources of external fire safety information and the principles of their application

- The Home Office's practical fire safety guidance or alternative related local guidance, eg, Scottish Government's sector specific guidance, Northern Ireland Fire and Rescue Service guidance documents
- British Standards for fire safety
- The principles of application of local guidance including:
  - implications and/or dangers of applying different parts of different guidance documents as a solution
  - appropriate guidance applicable to premises
  - applying guidance in a proportional manner
  - keeping up-to-date with guidance and standards

1.6 The purpose of, and the procedures for, investigating fires in the workplace

- Purpose of investigating fires in the workplace
- Basic fire-related investigation procedures – procedural differences and definitions (eg, fatal and non-fatal fires, accidental or arson fires and false alarms)
- Investigation preparation, preserving the fire scene
- Liaison and working protocols with the police, fire officer, HSE, public utilities, insurance investigators, forensic services and other specialists
- Identifying the underlying causes of the fire
- Remedial actions to prevent recurrence.

1.7 The legal and organisational requirements for recording and reporting fire-related incidents

- The requirements, process and procedures for the statutory recording and reporting of fire-related injuries, fatalities and dangerous occurrences in the workplace
- Internal organisational process and procedures for recording and reporting fire-related fatalities, major injuries or dangerous occurrences
- Accident book, fire logbook, general incident or occurrence book, appropriate forms (such as) F2508
- Use and review of fire safety risk assessments.

Recommended tuition time not less than 7 hours

Element 2: Principles of fire and explosion

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:

2.1 Explain the principles of the combustion process in relation to fire safety

2.2 Explain the principles and conditions for the ignition of solids, liquids and gases

2.3 Identify the classification of fires

2.4 Describe the principles of fire growth and fire spread

2.5 Outline the principles of explosion and explosive combustion.

Content

2.1 The principles of the combustion process in relation to fire safety

- The concept of the fire triangle
- The chemistry of combustion, chemical reactivity, the conditions for the maintenance of combustion, examples of combustion products in relation to combustion reaction conditions (complete and incomplete reaction); exothermic reaction releasing heat energy; oxidising agents/materials
- The stages of fire: induction, ignition, fire growth, steady state, and decay.

2.2 The principles and conditions for the ignition of solids, liquids and gases

- Meaning and relevance of flash point, fire point and ignition point (kindling point); auto ignition temperature; vapour density; vapour pressure; flammable liquid categories; flammable; upper flammable limit; lower flammable limit; combustion
- The conditions required to cause the ignition of combustible solids, flammable liquids and gaseous materials
- The methods of preventing or controlling ignition of combustible solid and flammable liquid and gaseous materials in relation to their physical and chemical properties
- The properties and safe storage of liquefied petroleum gas (LPG) – also see Element 3.2.

2.3 The classification of fires

- The classification of fire according to its fuel source.

2.4 The principles of fire growth and fire spread

- Factors that influence fire growth rates and smoke movement:
  - building design (such as cavities, ducts, shafts)
  - insulated core panels
  - construction materials
  - internal linings
  - ventilation levels
  - contents of the premises
- Methods of heat transfer; conduction, convection, radiation and direct burning and how they contribute to fire and smoke spread through buildings and to neighbouring properties
- The development of a fire under free burning conditions and a fire in enclosed conditions
- The conditions in which flashover and backdraught may occur.

2.5 The principles of explosion and explosive combustion

- Meaning of deflagration and detonation
- Common materials involved in explosions (such as flammable vapours, gases, dusts)
- The mechanism of types of explosion such as gas and vapour explosion (including boiling liquid expanding vapour explosion - BLEVE) and dust explosion (including primary and secondary explosion)
- The principles of preventing explosions:
  - good housekeeping
  - good ventilation
  - safe storage
  - handling of explosive materials
  - control of detonation sources
  - cooling
  - inerting, including the advantages and disadvantages of reduced oxygen atmospheres
- The principles for controlling explosions:
  - suppression (inerting)
  - venting (pressure relief valves, bursting discs, explosion venting panels)
  - containment
  - cooling.

Recommended tuition time not less than 3 hours

Element 3: Causes and prevention of fires and explosions

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:

3.1 Explain the causes of fires and explosions in typical work activities

3.2 Outline appropriate control measures to minimise fire and explosion risks.

Content

3.1 The causes of fires and explosions in typical work activities

- Common sources of ignition of accidental fires including:
  - electrical appliances and installations
  - lightning
  - cooking
  - heating and lighting
  - smoking
  - overheating of machinery
  - spontaneous ignition of oil and solvent soaked materials
  - hot work
- Sources of fuel including:
  - paper and cardboard
  - furniture
  - fixtures and fittings
  - electrical insulation
  - structural materials
  - wall and ceiling linings
  - piped gas supply
  - cylinders of flammable gas
  - flammable chemicals, liquids and solvents
- Sources of oxygen including:
  - oxygen levels in the air
  - natural ventilation
  - forced ventilation or air-conditioning systems
  - oxidising materials
- Factors influencing the severity and frequency of an arson attack:
  - location
  - security
  - access control
- Fire and explosion risks from flammable materials in use, storage and transport within the workplace
- The concept of fire load

- Fire risks in construction and maintenance work:
  - site storage of combustible and flammable materials such as LPG cylinders and other gases; drums of fuel
  - waste disposal considerations
  - demolition hazards
  - use of oxy-fuel equipment
  - temporary electrical installations.

3.2 Appropriate control measures to minimise fire and explosion risks

- Control of sources of ignition eg,
  - intrinsically safe electrical equipment for use in flammable and explosive atmospheres; use of mobile phones; maintenance and portable appliance testing (PAT) of portable electrical appliances
  - designated smoking areas; use of fire proof cigarette bins
  - shielding to block radiant heat and sparks
  - maintain separation of ignition sources and fuel sources
- Control of sources of fuel:
  - safe storage, transport and use of flammable, highly flammable and combustible materials
  - design and installation of storage facilities
  - inspection and maintenance programmes, safe/correct waste disposal methods
  - housekeeping
  - control of fire load
- Control of sources of oxygen including
  - closing doors and windows
  - shutting off ventilation/air conditioning systems/ducting (also see Element 4.1)
  - safe use and storage of oxidising materials
- Safe systems of work; safe-operating procedures; planned preventive maintenance programmes; management of contractors; permits-to-work; provision of information and training to employees and others; maintaining fire protection systems during maintenance; construction work on an existing building
- Actions to minimise risks from arson.

Recommended tuition time not less than 4 hours

Element 4: Fire protection in buildings

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:

4.1 Outline the means of fire protection and prevention of fire and smoke spread within buildings in relation to building construction and design

4.2 Explain the requirements of a means of escape

4.3 Outline the methods and systems available to give early warning in case of fire, both for life safety and property protection

4.4 Outline the selection procedures for basic fire extinguishing methods for both life risk and process risk

4.5 Explain the requirements for ensuring access for the fire service is provided and maintained

4.6 Outline steps to minimise the environmental impact of fire and fire fighting operations.

Content

4.1 The means of fire protection and prevention of fire and smoke spread within buildings in relation to building construction and design

- The role of the Building Regulations 2010 or Building (Scotland) Act 2004 or the Building Regulations (Northern Ireland) 2000 (as amended)
- Elements of structure according to the Building Regulations 'Approved Document B'
- Properties and requirements for fire resistance for elements of structure; resistance to collapse, fire and smoke penetration and transfer of excessive heat, resistance of fire doors and glazing; the significance of any immediately visible damage and the need to repair it
- Compartmentation to inhibit spread of fire and smoke within buildings, protection of openings in compartment walls and floors and fire stopping, cavity barriers, penetration seals, fire resisting ductwork
- Fire-resisting dampers (mechanical or intumescent)
- Internal fire growth, wall lining materials (including over-painting), fixtures, fittings and contents
- Fire-resisting walls, floors and ceilings forming escape routes and the need to maintain fire resistance
- Alarm systems linked to forced ventilation systems (automatic shutdown of ventilation system on activation of the fire alarm) - also see Element 3.2
- Means of preventing external fire spread:
  - construction of external walls and roofs
  - distance between buildings
  - use/activities undertaken at premises

- surrounding premises
- the role of the external walls in protecting escape routes at the boundaries.

4.2 Means of escape

- Understanding of a means of escape
- Principles, features and general requirements of means of escape:
  - alternative escape routes
  - understanding that all persons within the premises should be able to reach a place of ultimate safety before life-threatening conditions arise; either unaided or with the assistance of staff but without Fire Rescue Service (FRS) assistance (required safe egress time (RSET) versus available safe egress time (ASET))
  - maximum travel distances
  - number and size of escape route for number of occupants, (and basic occupancy calculations for offices and places of work and public assembly)
  - requirements for escape stairs, passageways and doors
  - use of door releases and other escape devices (including the need for these to fail safe)
  - protection of escape routes
  - emergency escape lighting (EEL) - common forms, modes of operation and signage; siting of luminaires and “Points of Emphasis”; limitations of emergency generators
  - design for progressive horizontal evacuation
  - final exit to a place of safety, etc
- Management actions to maintain means of escape
- Requirements for means of escape for vulnerable people and people with disabilities and/or mobility problems:
  - use of evacuation lifts and refuges
  - visual (including graphic), aural and tactile way-finding and exit sign systems
  - personal emergency evacuation plan (PEEP).

4.3 The methods and systems available to give early warning in case of fire, both for life safety and property protection

- Fire alarm and fire detection systems
- Types of automatic fire detection, their limitations and links with other systems and equipment eg, fire doors and fire extinguishing systems
- Categories of fire alarm and detection systems and their objectives (BS 5839, Part 1 and Part 6)
- Fire alarm zoning, the need for zone plans and their value to the FRS
- Alarm signalling, common alarm devices and their limitations
- Emergency Voice Communication (EVC) Systems
- Use of alarm receiving centres
- Manual and automatic systems
- Factors to be considered in the selection of fire detection and fire alarm systems :
  - life risk
  - process risk

  - behavioural issues
  - social behaviour and minimising false alarms
  - requirements for vulnerable people and people with disabilities and/or mobility problems
- Requirements for certification, maintenance and testing of fire detection and alarm systems.

4.4 Selection procedures for basic fire extinguishing methods for both life risk and process risk

- Factors in the provision, design and application of portable fire-fighting equipment and fixed installations
  - relevance of classification of fires when choosing fire-fighting equipment
- Extinguishing media
  - water
  - foam
  - dry powder
  - vapourising liquids
  - gaseous
  - and mode of action, advantages and limitations
- Portable fire-fighting equipment: siting, maintenance and training requirements
- Fixed installations (such as sprinkler, gas flooding and drencher systems and hose reels).

4.5 Requirements for ensuring access for the fire service is provided and maintained

- Requirements for vehicle and building access, fire mains/water source and smoke/heat venting of basements
- Fire-fighting shafts and stairwells
- Liaison with fire authority on arrival; contents of building.

4.6 Steps to minimise the environmental impact of fire and fire-fighting operations

- Sources of pollution in the event of a fire; toxic and corrosive smoke, run-off of contaminated fire-fighting water
- Legal obligations related to environmental protection in the event of a fire, role of the Environment Agency or Scottish Environmental Protection Agency or Northern Ireland Environment Agency in the event of a fire, Water Resources Act 1991
- Factors to be considered in pre-planning the minimisation of environmental impact of fire
- Site and damaged area clean up consideration.

Recommended tuition time not less than 7 hours

Element 5: Safety of people in the event of fire

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:

5.1 Explain the purpose and requirements of a fire emergency plan

5.2 Describe the development and maintenance of a fire evacuation procedure

5.3 Outline the perception and behaviour of people in the event of a fire

5.4 Outline appropriate training requirements.

Content

5.1 Fire emergency plan

- Purpose:
  - ensure people on premises know what to do in the event of fire
  - ensure appropriate action is taken in the event of fire to enable the premises to be evacuated safely
- Content of a fire emergency plan to include issues such as:
  - how people will be warned
  - action people should take on discovering a fire
  - action people should take in the event of a fire
  - arrangements for calling the Fire and Rescue Service
  - isolations
  - fire alarm activities
  - evacuation procedure
  - assembly points
  - fire-fighting arrangements
  - procedures for meeting the Fire and Rescue Service on arrival (including access arrangements)
  - provision of information on incident, etc
  - vulnerable people and those with disabilities
- Multi-occupied premises (need to consult/compile with all occupiers)
- Compatibility of the emergency plan with the everyday use of the premises.

5.2 The development and maintenance of a fire evacuation procedure

- The purposes of, and essential requirements for, evacuation procedures and drills, alarm evacuation and roll call
- Procedures to evacuate vulnerable people and people with disabilities and/or mobility problems
- Types of evacuation procedures (staged, phased, horizontal, etc) and interaction with staged alarm systems
- Actions required when evacuating members of the public

- Maintenance of a fire evacuation procedure.

5.3 Perception and behaviour of people in the event of a fire

- Principles of sensory perception:
  - early recognition by the senses
  - recognition of fire threat
  - perception versus reality
  - response to different forms of audible and visual warnings including negative aspects of warnings, recognition of alarms and reaction problems of people with sensory impairment, etc
- The effect of time pressure and stress on the decision making process during fire emergencies:
  - difficulties of spatial orientation and way-finding in large and complex locations;
  - patterns of exit choice in fire emergencies
  - the implications of exit choice behaviour in designing for fire safety
- Likely behaviour of individuals responsible for others during a fire; (such as parents and elder siblings, nurses, teachers, etc)
- The effect of different behaviours on fire and evacuation
- Crowd movement (individuals and in groups); how crowd flow can cause danger and prohibit safe escape, modification of crowd flow by physical design and messages
- Measures to overcome behavioural problems:
  - clear roles and responsibilities
  - clear alarms
  - well practiced drills
  - clear escape routes
  - measures to assist vulnerable people and people with disabilities and/or mobility problems
  - include contingency to deal with sleeping people within the evacuation strategy.

5.4 Appropriate training requirements

- Fire safety training information for employees, temporary, agency staff and volunteers, etc
- Training, experience, knowledge, other qualities and available equipment for competent persons
- Role of fire marshals/wardens in an emergency
- Employees with management/supervisory roles (may include; fire safety plan, fire alarm control panel, knowledge of special evacuation arrangements for persons with disabilities).

Recommended tuition time not less than 3 hours

Element 6: Fire safety risk assessment

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:

6.1 Explain the aims and objectives of fire safety risk assessments

6.2 Outline the principles and practice of fire safety risk assessments including principles of prevention (measures to remove and reduce risk)

6.3 Outline matters to be considered in a risk assessment of dangerous substances

6.4 Outline measures to be taken to control risk in respect of dangerous substances.

Content

6.1 Aims and objectives of fire safety risk assessments

- Meaning of hazard and risk in relation to a fire
- Criteria for a 'suitable and sufficient risk assessment'
- Objectives of fire safety risk assessments: outcomes of incidents in terms of human harm, legal and economic effects on the organisation and impact on overall risk magnitude; safety measures and management policies necessary to reduce the risk to persons from fire
- Distinction between different types of fire incident:
  - injury accident,
  - ill-health,
  - dangerous occurrence,
  - near miss
  - fire damage-only

6.2 Principles and practice of fire safety risk assessments

- Identification of laws, regulations and guidance to be considered
- Fire hazards:
  - sources of ignition
  - sources of fuel
  - sources of oxygen including oxidising agents
- Methods of identifying hazards such as inspections, job/task analysis, etc
- People at risk such as:
  - employees
  - maintenance staff
  - cleaners
  - contractors
  - visitors
  - public

  - young persons (reference to schedule 1 Part 2 of the Regulatory Reform (Fire Safety) Order 2005 or alternatively The Fire Safety (Scotland) Regulations 2006 or The Fire Safety Regulations (Northern Ireland) 2010)
  - vulnerable people and people with disabilities and/or mobility problems, etc

- Evaluation of risk and the adequacy of existing fire safety measures
- Evaluate the likelihood that a fire may occur (ie, the risk of ignition sources, oxygen and fuel coming together) by either an accidental event, by an act or omission or by deliberate intent
- Evaluate the hazards to people in the event of fire, ie, loss of visibility, elevated temperature, toxic gases and oxygen depletion
- Evaluate the consequence to people from a fire starting in the building (ie, potential for a fire to cause death or injury) such as the need to consider available escape routes in relation to location where fire may start, potential fire and smoke spread due to level of protection, etc
- Risk to be reduced as far as is reasonably practicable
- Avoid or reduce hazards that may cause a fire
- Put in place fire safety measures to reduce the risk to persons from fire (such as means of detecting fires, means of escape, means of fighting fires, arrangements for action to be taken in event of fire, etc)
- Principles of prevention;
  - avoid risk
  - evaluate risk that cannot be avoided
  - combat risk at source
  - adapt to technical progress
  - replace the dangerous by the non-dangerous or less dangerous
  - develop a coherent overall prevention policy that covers technology, organisation of work and the influence of factors relating to the working environment, collective fire safety protective measures priority over individual protective measures; instruction to employees
- Recording significant findings: Format, information to be recorded such as:
  - significant fire hazards
  - persons at risk
  - actions taken to reduce risk to persons
  - fire preventive measures
  - details of emergency plan
  - information
  - instruction
  - and training requirements
- Reviewing the fire risk assessment, reasons for review such as:
  - a change in the number of persons present or persons with disabilities,
  - any alterations to the building
  - changes to work procedures
  - introduction of new equipment
  - significant changes to furniture and fittings
  - introduction of or storage of dangerous substances
  - becoming aware of shortcomings in fire safety measures or improvements, legislative changes
  - elapse of time

- Sources of information that could be consulted reference to Element 1 'Managing fire safety' and information such as:
  - legislation
  - Home Office practical fire safety guidance or alternatively related local guidance, eg, Scottish Government's sector specific guidance, Northern Ireland Fire and Rescue Service guidance documents
  - fire plan
  - old fire certificate (if available)
  - previous risk assessments
  - general monitoring records
  - portable appliance tests (PAT) records/electrical checks – installations, etc,
  - fire log book
  - previous incidents
  - visitor register
  - current fire precaution checks (fire alarm systems, emergency lighting, fire signs, portable fire fighting equipment, etc)
  - training and maintenance records
  - health and safety file
  - operator and machine manuals, etc.

6.3 Matters to be considered in a risk assessment of dangerous substances

- Reference to Element 3 'Causes and prevention of fires' and Schedule 1 Part 1 of the Regulatory Reform (Fire Safety) Order 2005 or alternatively The Fire Safety (Scotland) Regulations 2006 or The Fire Safety Regulations (Northern Ireland) Regulations 2010; Regulation 5 of the Dangerous Substances and Explosive Atmosphere Regulations 2002, and can include:
  - the hazardous properties of the substance
  - information on safety provided by the supplier
  - the circumstances of the work (special/technical/organisational measures, the substance and possible interactions, amount of substance, risk presented by combination of substances)
  - arrangements for safe handling
  - the likelihood that an explosive atmosphere will occur
  - the likelihood that ignition sources will be present and become active and effective
  - the scale of the anticipated effects
  - any places which are, or can be connected via openings, to places in which explosive atmospheres may occur
  - any additional information which may be needed to completed the assessment.

6.4 Measures to be taken to control risk in respect of dangerous substances

- Reference to Element 3 'Causes and prevention of fires' and Schedule 1 Part 4 of the Regulatory Reform (Fire Safety) Order 2005 or alternatively The Fire Safety (Scotland) Regulations 2006 or The Fire Safety Regulations (Northern Ireland) Regulations 2010; Regulation 5 of the Dangerous Substances and Explosive Atmosphere Regulations 2002, and can include:
  - reduce quantities to a minimum
  - avoid/minimise the release of a dangerous substance
  - control the release of a dangerous substance at source

- prevent the formation of an explosive atmosphere (including appropriate ventilation)
- ensure that any release of a dangerous substance which may give rise to risk is suitably collected, safely contained, removed to a safe place, or otherwise rendered safe, as appropriate
- avoid ignition sources and electrostatic discharges
- segregate incompatible dangerous substances
- reduce number of persons exposed to a minimum
- provide and maintain fire suppression equipment
- provide and maintain explosion pressure relief arrangements
- measures to avoid propagation of fires/explosions
- ensure premises are designed, constructed and maintained so as to reduce risk
- any hazardous jobs involving dangerous substances are carried out under an appropriate system of work including permit-to-work.

Recommended tuition time not less than 5 hours

Unit FC1: Tutor References

Statutory instruments

Legislation	Country	Element/s
Classification, Labelling and Packaging of Substances and Mixtures (CLP Regulation)	European Regulation (EC) No 1272/2008 Link to CLP Regs	6
Control of Major Accident Hazards Regulations 2015	UK / Great Britain	3, 6
Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002	UK / Great Britain	1, 2, 3, 6
Electrical Equipment (Safety) Regulations 2016	UK / Great Britain	3
Electricity at Work Regulations 1989	UK / Great Britain	3
Environmental Protection Act 1990	UK / Great Britain	1, 4
Equality Act 2010	UK / Great Britain	5
Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016	UK / Great Britain	5
Health and Safety at Work etc Act 1974	UK / Great Britain	1
Health and Safety (Safety Signs and Signals) Regulations 1995	UK / Great Britain	4
Management of Health and Safety at Work Regulations 1999	UK / Great Britain	1, 4, 5, 6
Regulatory Reform (Fire Safety) Order 2005	UK / Great Britain	1, 4, 5, 6
Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013	UK / Great Britain	1
Water Resources Act 1991	UK / Great Britain	4
The Fire Safety (Employees' Capabilities) (England) Regulations 2010	England	6
Building Regulations 2010 (as amended)	England and Wales	2, 4
Building Regulations (Northern Ireland) 2012 (as amended)	Northern Ireland	2, 4
Dangerous Substances and Explosive Atmospheres Regulations (Northern Ireland) 2003	Northern Ireland	1, 2, 3, 6
Fire and Rescue Services (Northern Ireland) Order 2006	Northern Ireland	1, 4, 5, 6
Fire Safety regulations (Northern Ireland) 2010	Northern Ireland	1, 4, 5, 6
Building (Scotland) Regulations 2004 (as amended)	Scotland	2, 4
Fire (Scotland) Act 2005	Scotland	1, 4, 5, 6

Legislation	Country	Element/s
Fire Safety (Scotland) Regulations 2006	Scotland	1, 4, 5, 6
The Fire Safety (Employees' Capabilities) (Wales) Regulations 2012	Wales	6

Other relevant references

Reference title	Reference detail eg ISBN number	Element/s
ATEX and explosive atmospheres	HSE	3
A guide to the Control of Major Accident Hazards Regulations 2015, guidance on regulations, L111	HSE Books, ISBN: 978-0-7176-6605-8	3
Best Practice Guide to Fire Safety	Fire Industry Association	1, 4, 5, 6
British Standards for fire safety	PAS 79 Fire Safety Risk Assessment	1
Dangerous substances and explosive atmospheres, Dangerous Substances and Explosive Atmospheres Regulations 2002, Approved Code of Practice (ACoP) and guidance, L138	HSE Books, ISBN: 978-0-7176-6616-4	1, 2, 3, 6
Technical Booklet E - Fire Safety, The Building (Amendment No 2) Regulations (Northern Ireland) 2010	Department of Finance, Northern Ireland	2, 4
Fire detection and fire alarm systems for buildings	BS5839, Parts 1 and 6	4
Fire Risk Assessment, guidance and a recommended methodology, PAS79:2012	BSI, ISBN: 978-0-580-76451-6	6
Fire safety in construction work, HSG168	HSE Books, ISBN: 978-0-7176-6345-3	3
Fire Safety Risk Assessment series, Home Office publications 1. Offices and shops 2. Factories and warehouses 3. Sleeping accommodation 4. Residential care premises 5. Educational premises 6. Small and medium places of assembly 7. Large places of assembly 8. Theatres, cinemas and similar premises 9. Open air events and venues, 10. Healthcare premises, 11. Transport premises and facilities 12. Means of escape for disabled people	1. ISBN: 978-1-8511-2815-0 2. ISBN: 978-1-8511-2816-7 3. ISBN: 978-1-8511-2817-4 4. ISBN: 978-1-8511-2818-1 5. ISBN: 978-1-8511-2819-8 6. ISBN: 978-1-8511-2820-4 7. ISBN: 978-1-8511-2821-1 8. ISBN: 978-1-8511-2822-8 9. ISBN: 978-1-8511-2823-5 10. ISBN: 978-1-8511-2824-2 11. ISBN: 978-1-8511-2825-9 12. ISBN: 978-1-8511-2873-0	1, 6
Generic risk assessment 5.8: Flashover, backdraught and fire gas ignitions	Communities and local government, ISBN: 978-0-1175-4011-8	2
Guidelines for assessing the fire threat to people	BS ISO 19706:2011, ISBN: 978-0-580-72072-7	6
The health and safety toolbox: how to control risks at work	HSE	1, 6
Managing for health and safety, HSG65	HSE Books, ISBN: 978-0-7176-6456-6	1
Memorandum of guidance on the Electricity at Work Regulations 1989, HSR25	HSE Books, ISBN: 978-0-7176-6228-9	3

Reference title	Reference detail eg ISBN number	Element/s
Non Domestic Section 2 Fire (2011 Technical Handbooks), The Building (Scotland) Regulations 2004		2, 4
Northern Ireland Fire and Rescue Service guidance documents		1
Reporting accidents and incidents at work – A brief guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013, INDG453	HSE Books	1
Risk Control, Arson prevention, The protection of premises from deliberate fire raising, RC48	RICS Authority and Fire Protection Association	3
Safe use and handling of flammable liquids, HSG140	HSE Books, ISBN: 978-0-7176-0967-3	2, 3
Safe Handling of Combustible Dusts – precautions against explosions, HSG103	HSE Books ISBN: 978-0-7176-2726-4	2
Safety signs and signals, The Health and Safety (Safety Signs and Signals) Guidance on Regulations, L64	HSE Books, ISBN: 978-0-7176-6598-3	4
Sector specific fire guidance	The Scottish Government	1
Storage of flammable liquids in containers, HSG51	HSE Books, ISBN: 978-0-7176-1471-4	2, 3
Storage of flammable liquids in tanks, HSG176	HSE Books	2, 3
The Building Regulations 2010, Approved Document M 2004 - Access to and use of buildings		4
The Building Regulations 2010 Approved Document B - Fire Safety, Volume 2, Buildings other than dwelling houses		2, 4
The Control of Major Accident Hazards Regulations 2015, Guidance on Regulations, L111	HSE Books, ISBN: 978-0-7176-6605-8	3, 6
The health and safety toolbox, How to control risks at work, HSG268	HSE Books, ISBN: 978-0-7176-6587-7	1

5.3 Unit FC2: Fire safety practical application

Learning outcomes

- Demonstrate the ability to apply knowledge of the unit NGC1 and FC1 syllabus, by successful completion of a fire risk assessment within the workplace.

Content

This unit contains no additional syllabus content. However, completion of study for units NGC1 and FC1 is recommended in order undertake the practical application unit FC2.

5.3.1 Purpose and aim

The aim of the fire safety practical application is to test a candidate's ability to complete a fire safety risk assessment of a workplace. In particular, to:

- Identify fire hazards in the workplace;
- Identify persons who could be at risk should a fire start;
- Assess the adequacy of existing fire safety measures to control risk;
- Assess the risk of fire occurring;
- Assess and demonstrate understanding of the speed at which fire and smoke could spread once started;
- Assess the risk to persons from fire;
- Where necessary, recommend additional fire safety measures to further reduce risk;
- Recommend a risk assessment review date.

This will require candidates to apply the knowledge and understanding gained from their studies of elements of Units NGC1 and FC1 in a practical environment and to carry out an evaluation of information gathered. The practical application may be submitted in the candidate's own handwriting or be word processed.

5.3.2 Marking

Practical applications will be marked by an internal assessor – a person proposed to NEBOSH by an accredited course provider and approved by NEBOSH. Internal assessors will be at least Grad IOSH of the Institution of Occupational Health and Safety or equivalent and working towards chartered membership, CMIOSH, (or similar).

A marking sheet will be completed by the internal assessor for each candidate and attached to the candidate's report. The total percentage mark for each candidate will be transferred to a results sheet and returned to NEBOSH by no later than 15 working days after the examination date of NGC1 and/or FC1.

Candidates must achieve the pass standard (60%) in this unit in order to satisfy the criteria for the qualification.

5.3.3 Assessment location

The practical application must be carried out in the candidate's own workplace. Where the candidate does not have access to a suitable workplace, the accredited course provider should be consulted to help in making arrangements for the candidate to carry out the practical application at suitable premises. Providers seeking to run the practical unit in this way should contact NEBOSH for advice and approval.

Candidates do not require supervision when carrying out the practical application, but the candidate must sign a declaration that the practical application is their own work.

The candidates, employers and internal assessors should be aware that the status of the risk assessment undertaken to fulfil the requirements of unit FC2, which is **for educational purposes only**. It *does not* constitute an assessment for the purposes of any legislation or regulations.

5.3.4 Assessment requirements

Assessment of the practical unit (FC2) must normally take place within 10 working days of (before or after) the date of the NGC1 and/or FC1 written papers (the 'date of the examination'). The results sheet completed by the accredited course provider must reach NEBOSH by no later than 15 working days after the date of the examination.

Any practical application not submitted by this deadline will be declared as absent. The candidate will then be required to re-register (and pay the registration fee) at the next standard (or 'on demand') sitting date.

If a candidate is absent from the written papers because of illness corroborated by a doctor's note, but successfully completes the FC2 unit within the 10 working day deadline, the result will stand. If a candidate is unable to complete the FC2 unit under similar circumstances, NEBOSH may allow it to be taken at a later date beyond the normal 10 working day deadline.

5.3.5 Submission of completed work

The accredited course provider should advise the candidate of the latest date by which the completed practical application documents must be received by the accredited course provider for marking. It is the responsibility of the accredited course provider to ensure that the results of the practical application (Unit FC2) are available to NEBOSH by no later than **15 working days** after the date of the examination for NGC1 and/or FC1 as appropriate.

Candidates planning to post their assessments to the accredited course provider are reminded of the need to guard against loss in the post by sending their work by trackable delivery. Candidates are therefore advised to retain copies of both their completed sheets.

5.3.6 Further information

Further detailed information regarding the practical application unit including forms and mark schemes can be found in a separate guidance document for candidates and accredited course providers available from the NEBOSH website (www.nebosh.org.uk): *"Unit FC2: Fire safety practical application: Guidance and information for accredited course providers and candidates"*.

6. Sample examination papers

6.1 Unit NGC1: Management of health and safety

THE NATIONAL EXAMINATION BOARD IN OCCUPATIONAL SAFETY AND HEALTH

UNIT NGC1: MANAGEMENT OF HEALTH AND SAFETY

For: NEBOSH National General Certificate in Occupational Health and Safety
NEBOSH National Certificate in Fire Safety and Risk Management
NEBOSH National Certificate in Construction Health and Safety

[DATE]
2 hours, 0930 to 1130

Answer both Section 1 and Section 2. Answer **ALL** questions.

The maximum marks for each question, or part of a question, are shown in brackets.

Start each answer on a new page.

Answers may be illustrated by sketches where appropriate.

This question paper must be returned to the invigilator after the examination.

SECTION 1

You are advised to spend about **half an hour** on this section, which contains **ONE** question.

---

1 An enforcement officer has visited an organisation and has found that a number of work activities have not had risk assessments completed.

(a) **Describe** actions that the enforcement officer could take. **(4)**

(b) **Outline** key stages of a risk assessment **AND identify** issues that would need to be considered at **EACH** stage. **(10)**

(c) **Explain** criteria that could be used to prioritise any action required as a result of the completed risk assessment. **(6)**

SECTION 2

You are advised to spend about **one and a half hours** on this section, which contains **TEN** questions.

2 (a) **Identify** work-related illnesses that are reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013. **(2)**

(b) **Outline** reasons why employers should keep records of occupational ill-health among employees. **(6)**

3 **Outline** *job* factors that could lead to poor health and safety behaviour in the workplace. **(8)**

4 (a) **Outline** functions of a permit-to-work *form*. **(2)**

(b) **Outline** key elements of a permit-to-work *system*. **(6)**

5 **Identify** information that could be used to review an organisation's health and safety performance. **(8)**

6 (a) **Outline** legal requirements placed on employers to have a written health and safety policy. **(2)**

(b) **Outline** circumstances that may require a health and safety policy to be revised. **(6)**

7 (a) **Identify** work activities that may present a particular risk to pregnant women at work **AND give** an example of **EACH** type of activity. **(6)**

(b) **Outline** actions that an employer may take when a risk to a new or expectant mother cannot be avoided. **(2)**

8 **Outline** the purpose and legal status of:

(a) health and safety regulations; **(4)**

(b) Health and Safety Executive (HSE) approved codes of practice (ACOPs) **(4)**

AND give an example in **EACH** case.

9 When carrying out a health and safety inspection of a workplace:

(a) **outline** the benefits of using a checklist; **(4)**

(b) **outline** the limitations of using a checklist. **(4)**

10 **Explain** why it is important to use a variety of methods to communicate health and safety information in the workplace. **(8)**

11 (a) **Outline** employee duties under the Management of Health and Safety at Work Regulations 1999. **(2)**

(b) **Outline** employee responsibilities that should be included in the *'organisation'* section of a health and safety policy. **(6)**

5.2 Unit FC1: Fire safety and risk management

THE NATIONAL EXAMINATION BOARD IN OCCUPATIONAL SAFETY AND HEALTH

NEBOSH NATIONAL CERTIFICATE IN FIRE SAFETY AND RISK MANAGEMENT

UNIT FC1: FIRE SAFETY AND RISK MANAGEMENT

[DATE]
2 hours, 1400 to 1600

Answer both Section 1 and Section 2. Answer **ALL** questions.

The maximum marks for each question, or part of a question, are shown in brackets.

Start each question on a new page.

Answers may be illustrated by sketches where appropriate.

This question paper must be returned to the invigilator after the examination.

SECTION 1

You are advised to spend about **half an hour** on this section, which contains **ONE** question.

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1 (a) **Outline** issues that should be considered when carrying out a fire risk assessment. **(10)**

(b) **Outline** the principles of prevention that must be applied when deciding on appropriate control measures to minimise the risk from fire. **(8)**

(b) **Identify** circumstances that would require the significant findings of a fire risk assessment to be recorded. **(2)**

SECTION 2

You are advised to spend about **one and a half hours** on this section, which contains **TEN** questions.

2 A fire safety audit of an industrial site that handles solid and liquid flammable materials has identified failings in the management of waste. The failings will significantly affect the level of fire risk.

Outline issues that should be considered in order to manage these waste materials effectively and minimise fire risk. **(8)**

3 Contaminated fire-fighting water run-off from the site of a fire can pollute the environment.

Outline measures that can be used to contain fire-fighting water. **(8)**

4 (a) **Identify TWO** classes of fire where a dry powder extinguisher should be used **AND outline** the effectiveness of this extinguisher against such a fire. **(4)**

(b) **Outline**:

(i) benefits; **(2)**

(ii) limitations **(2)**

of using a dry powder extinguisher.

5 **Identify** information that may be contained in a fire log book. **(8)**

6 **Describe** conditions in which backdraught may occur. **(8)**

7 A serious fire occurred in an electrical control panel leading to total loss of the affected premises. The subsequent investigation identified that fire-fighting equipment was not available and the fire and rescue service was delayed due to access problems to the site.

(a) **Identify** portable fire extinguishers that could have been used to extinguish the fire in its early stages. **(2)**

(b) **Explain** the requirements for suitable access provision for the fire and rescue service:

(i) to the site; **(3)**

(ii) to the building. **(3)**

8 **Outline** issues that should be considered by a fire and rescue service before starting an investigation into a serious fire at a workplace. **(8)**

9 People react in different ways in the event of a fire.

(a) **Outline** how people may become aware of the threat of a fire. **(4)**

(b) **Outline** measures that could be introduced to overcome the behavioural problems of people in the event of a fire. **(4)**

10 **(a)** **Outline** reasons why fires started deliberately normally cause more damage than those started accidentally. **(2)**

(b) **Outline** precautions that could be put in place in order to reduce the risk of arson. **(6)**

11 **Explain** factors relating to the number, width and travel distance of escape routes within buildings that make them *'suitable and sufficient'*. **(8)**