

Qualification Title: NEBOSH International Certificate in Construction Health and Safety

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Guide to the NEBOSH International Certificate in Construction Health and Safety (November 2014 specification)

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1. Introduction

The International Certificate in Construction Health and Safety is suitable for supervisors and managers within the construction industry outside of the UK and is designed to provide a sound breadth of underpinning knowledge that enables them to manage construction risks effectively.

The NEBOSH International Construction Certificate is also suitable for those embarking on a career in health and safety, providing a valuable foundation for further professional study (such as the NEBOSH International Diploma).

The International Construction Certificate is modelled on the NEBOSH National Construction Certificate. The key difference between the two qualifications is in the applicability of legal requirements. Rather than be guided by a specifically UK framework, the International Construction Certificate takes a risk management approach based on best practice and international standards, such as International Labour Organisation (ILO) codes of practice, with special reference to the model proposed in the ILO's "Guidelines on Occupational Safety and Health Management Systems" (ILO-OSH 2001). Local laws and cultural factors form part of the study programme where relevant and appropriate.

1.1 Benefits for employers

Despite the increasing global recognition of the importance of health and safety at work, accidents and work-related ill-health continue to affect all types of workplaces and occupations. The ILO estimates that approximately 2 million workers per year die of occupational injuries and illnesses, equivalent to over 5,000 workers dying worldwide every day. At least 355,000 of these deaths are due to accidents at work. There are an estimated 500 – 2000 non-fatal injuries for every fatal injury (including 160 million cases of work-related disease), many of which result in lost earnings, lost jobs and permanent disability and poverty.

The business impact of workplace accidents and ill-health is also compelling – in addition to the direct costs of sick pay and absence, employers can find themselves dealing with criminal prosecution, claims for compensation, adverse publicity and harm to both business reputation and profitability. In the UK alone the estimated annual cost of occupational injury and illness is £5 billion to employers and £16 billion to the British economy. The annual worldwide cost of occupational injury and illness is estimated by the ILO to be twenty times greater than the total amount of official development assistance provided to developing countries (approximately \$50 billion).

The vast majority of construction injuries, accidents and ill-health are avoidable by good health and safety management. By saving money, improving productivity and raising workforce morale, effective health and safety management should be recognised as an essential element of a successful management strategy.

Many larger organisations choose the NEBOSH qualifications as a key part of their supervisors' or management development programme. By ensuring that line managers have a sound understanding of the principles of risk management they build an effective safety culture in the organisation.

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This course can be delivered within an organisation, or employees can attend accredited training courses run 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 NEBOSH National Certificate in Construction Health and Safety are entitled to Associate Membership (AIOSH) of the Institution of Occupational Safety and Health (IOSH). The qualification also meets the academic requirements for Technical membership (Tech IOSH) of the Institute of Occupational Safety and Health (IOSH – www.iosh.co.uk).

The NEBOSH National Certificate in Construction Health and Safety meets the headline entrance criteria requirements for Construction Safety Associate membership (AaPS) of the Association for Project Safety (APS - www.aps.org.uk).

Holders of the NEBOSH National or International Diploma in Occupational Health and Safety *and* the NEBOSH National or International Certificate in Construction Health and Safety meet the headline entrance criteria requirements for Registered Construction Safety Practitioner (RMaPS) membership of the Association for Project Safety (APS).

Holders of this qualification are also entitled to Associate membership (AIIRSM) of the International Institute of Risk and Safety Management (IIRSM – www.iirsm.org).

1.3 Qualification level and UK accreditation

The NEBOSH International Certificate in Construction Health and Safety is accredited and credit rated by the Scottish Qualifications Authority Accreditation (SQA Accreditation – 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 17 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

- International standards for health and safety at work
- Implementation of health and safety management systems
- Identification of workplace hazards within the construction industry
- Methods of risk control within the construction industry
- Practical application of knowledge and understanding

1.5 Course tuition and private study time requirements

Unit IGC1: 36 hours tuition and 23 hours private study	Total: 59 hours
Unit ICC1: 68 hours tuition and 29 hours private study	Total: 97 hours
Unit ICC2: 2 hours tuition and 6 hours private study	Total: 8 hours

A programme of study therefore needs to be based around a minimum of **106 taught hours** and approximately **58 hours of private study** for an overall total of **164 hours**.

A full-time block release course would be expected to last for a minimum of three weeks (fifteen working days) and a part-time day release course would be spread over at least fifteen 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 1.4).

1.6 Entry requirements

There are no specific barriers, in terms of academic qualifications, skills or experience to entry to the NEBOSH International Construction Certificate 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 write a short report based on the candidate's own workplace, which must also be 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 International Construction Certificate 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 an International Construction Certificate 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/faqs.aspx>.

1.8 Languages

Unit examinations are available for 'on demand' examinations in other languages; please refer to your course provider and the NEBOSH website for further details.

Examinations in languages other than English **cannot** be taken in the UK.

1.9 Legislation

The syllabus refers to international conventions and recommendations. Where 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 not refer to specific legislation, but will refer to international conventions, recommendations and good practice as indicated in the syllabus.

1.10 Legislative updates

Relevant new international conventions and recommendations will become examinable in detail six months after their 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 international conventions and recommendations, where relevant to an examination question, will be given credit.

Please note, NEBOSH will not ask questions related to international conventions and recommendations that have been repealed, revoked or otherwise superseded.

NB: Accredited course providers are expected to ensure their course notes remain current with regard to new international conventions and recommendations.

1.11 National Occupational Standards

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

- NOS for Health and Safety (Standalone units) published by Proskills Proskills Standards Setting Organisation
- NOS to Manage health, safety, welfare and environmental factors published by Constructionskills SSC.

The mapping of the syllabus units to each NOS can be found on pages 13-15.

1.12 Qualification type

NEBOSH qualifications are categorised as 'Other' qualifications by SQA Accreditation in Scotland. These are categorised as 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.

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

1.13 Qualification progression

Unit IGC1 is common to:

- 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

This enables students seeking to develop specialist knowledge to combine units across these NEBOSH qualifications. IGC1 unit holders do not need to re-sit this examination 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 International Diploma in Occupational Health and Safety.

This 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.

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 'local' (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 May 2010 specification for all examinations from (and including) 1 October 2015.

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.

1.18 Further information for candidates

Further information for candidates including a syllabus summary, qualification overview leaflet, practical guidance and a sample examiner's report 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 December 2019 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
1 October 2021	2014 specification - registrations for existing learners** only
21 July 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 International Certificate in Construction Health and Safety 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 IGC1: Management of international health and safety

- Unit IGC1 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)
- Each examination paper covers the whole IGC1 unit syllabus with at least one question per unit element and all questions are compulsory
- Candidate scripts are marked by external examiners appointed by NEBOSH
- A sample examination paper can be found in Section 5.

Unit ICC1: Managing and controlling hazards in international construction activities

- Unit ICC1 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)
- Each examination paper covers the whole ICC1 unit syllabus with at least one question per unit element and all questions are compulsory
- Candidate scripts are marked by external examiners appointed by NEBOSH
- A sample examination paper can be found in Section 5.

Unit ICC2: International construction health and safety practical application

- Unit ICC2 is assessed by a practical assessment carried out in the candidate's own workplace
- This is held on a date set by the accredited course provider and must normally be taken within 10 working days of a written examination
- The practical examination is internally assessed by the accredited course provider and moderated by a 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 do two or all three units, Unit ICC2 (International construction health and safety practical application) is not normally offered independently of the taught units (IGC1/ICC1). Candidates will normally be required to complete the ICC2 assessment within 10 working days of sitting the examination for unit IGC1 and/or ICC2, 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 IGC1: Management of international health and safety.

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 those exemptions.

2.3 Achieving the qualification

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

2.4 Unit pass standard

The provisional pass mark 45% for the written papers (IGC1 and ICC1). More information on how provisional pass 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/>.

The pass mark for the practical application unit (ICC2) is 60%.

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 IGC1, ICC1 and ICC2), 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 qualification grade awarded they are normally considered to have completed the qualification and a qualification parchment will be issued within 40 working days of the result declaration date for the third successfully completed unit.

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 unit/s

If a candidate's performance in a unit is lower than a pass, candidates 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 examination 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 International Certificate in Construction Health and Safety 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 on 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. This includes a particular review of borderline results. 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 compromises 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 International Certificate in Construction Health and Safety 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 International Certificate in Construction Health and Safety (November 2014 specification)

Structure

The qualification is divided into three units. Unit IGC1 is further divided into five elements and Unit ICC1 into twelve elements.

The matrix below 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 by Proskills Standards Setting Organisation.
- NOS to Manage health, safety, welfare and environmental factors published by Constructionskills SSC.

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

Unit IGC1: Management of international health and safety

Element Number	Element Title	Recommended hours	Relevant Proskills units and elements	Relevant Construction skills units and element	Page
1	Foundations in health and safety	7	PROHSS 1-3, 5-6	n/a	15
2	Health and safety management systems - Plan	3	PROHSS 2-3, 5	CO1.2, 1.3	17
3	Health and safety management systems - Do	17	PROHSS 1-3, 6	CO1.2, 1.3	19
4	Health and safety management systems – Check	5	PROHSS 1-3, 8	CO1.2-1.4	22
5	Health and safety management systems - Act	4	PROHSS 1-3, 8	CO1.2, 1.3	26
Minimum unit tuition time		36			
Recommended private study time		23			

Unit ICC1: Managing and controlling hazards in international construction activities

Element Number	Element Title	Recommended Hours	Relevant Proskills units and elements	Relevant Construction skills units and element	Page
1	Construction management	5	<i>PROHSS</i> 1-3	<i>CO1.2, 1.3</i>	29
2	Construction site - hazards and risk control	5	<i>PROHS</i> S 1-3, 6, 8-9	<i>CO1.2-1.4</i>	32
3	Vehicle and plant movement – hazards and risk control	5	<i>PROHS</i> S 1-3, 6, 8-9	<i>CO1.2-1.4</i>	35
4	Musculoskeletal - hazards and risk control	7	<i>PROHS</i> S 1-3, 6, 8-9	<i>CO1.2-1.4</i>	37
5	Work equipment – hazards and risk control	6	<i>PROHS</i> S 1-3, 6, 8-9	<i>CO1.2-1.4</i>	39
6	Electrical safety	4	<i>PROHS</i> S 1-3, 6, 8-9	<i>CO1.2-1.4</i>	41
7	Fire safety	6	<i>PROHS</i> S 1-3, 6, 8-9	<i>CO1.2-1.4</i>	43
8	Chemical and biological health – hazards and risk control	9	<i>PROHS</i> S 1-3, 6, 8-9	<i>CO1.2-1.4</i>	46
9	Physical and psychological health – hazards and risk control	6	<i>PROHS</i> S 1-3, 6, 8-9	<i>CO1.2-1.4</i>	49
10	Working at height – hazards and risk control	7	<i>PROHS</i> S 1-3, 6, 8-9	<i>CO1.2-1.4</i>	51
11	Excavation work and confined spaces – hazards and risk control	5	<i>PROHS</i> S 1-3, 6, 8-9	<i>CO1.2-1.4</i>	54
12	Demolition and deconstruction – hazards and risk control	3	<i>PROHS</i> S 1-3, 6, 8-9	<i>CO1.2-1.4</i>	57
Minimum unit tuition time		68			
Recommended private study time		29			

Unit ICC2: International construction health and safety practical application

Element Number	Element Title	Recommended Hours	Relevant Proskills units and elements	Relevant Construction skills units and element	Page
1	Health and safety practical application	2	<i>PROHSS 1-3, 6, 8</i>	<i>CO1.2-1.4</i>	61
	Minimum unit tuition time	2			
	Recommended private study time	6			
	Minimum total tuition time	106			
	Recommended total private study time	58			
	Total overall hours	164			

5.1 Unit IGC1: Management of international health and safety

Element 1: Foundations in health and safety

Learning outcomes

- 1.1 Outline the scope and nature of occupational health and safety
- 1.2 Explain the moral, social and economic reasons for maintaining and promoting good standards of health and safety in the workplace
- 1.3 Explain the role of national governments and international bodies in formulating a framework for the regulation of health and safety.

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, social and economic reasons for maintaining and promoting good standards of health and safety in the workplace

- 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 need to provide a safe place of work, safe plant and equipment, safe systems of work, training and supervision, and competent workers
- The business case for health and safety: costs of insured and uninsured accidents and ill-health; employers' liability insurance.

1.3 The role of national governments and international bodies in formulating a framework for the regulation of health and safety

- Employers' responsibilities
- Workers' responsibilities and rights
- The role of enforcement agencies and the consequences of non-compliance
- International standards and conventions (eg, International Standards Organisation (ISO) and the International Labour Organisation - ILO)
- Sources of information on National Standards.

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 The key elements of a health and safety management system

- With reference to ILO Guidelines on Occupational Safety and Health Management Systems (ILO-OSH 2001)
 - policy (Plan)
 - organising (Plan)
 - planning and implementing (Do)
 - evaluation - monitoring, review, measurement, investigation (Check)
 - auditing (Check)
 - action for improvement - preventative and corrective action; continual improvement (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 The purpose and importance of setting policy for health and safety

- The role of the health and safety policy in decision-making; the needs of different organisations.

2.3 The 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, time bound (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; feedback loops; the role of the line managers in influencing the health and safety policy and monitoring 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
- The circumstances that may lead to a need to review the health and safety policy (eg, passage of time, technological, organisational or legal changes, results and monitoring)
- Standards and guidance relating to health and safety policy.

Recommended tuition time not less than 3hours

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 health and safety roles and responsibilities of employers, directors, managers, supervisors, workers and other relevant parties
- 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 preventive and protective measures
- 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, supervisors, workers and other relevant parties

- Organisational roles of directors/managers/supervisors
- Top 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 necessary)
 - role in reviewing health and safety performance
- The roles and responsibilities of:
 - middle managers and supervisors for the health and safety of workers
 - persons with primary health and safety functions
 - workers for the health and safety of themselves and others who may be affected by their acts or omissions

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- persons in control of premises for the health and safety of those who are not directly employed by the organisation using the premises as a place of work and for those using plant or substances provided, eg, contractors
- the self-employed for the health and safety of themselves and others
- The supply chain and requirements on suppliers, manufacturers and designers of articles and substances for use at work in relation to the health and safety of their products and the provision of information
- The relationship between client and contractor and the duties each has to the other and to the other's workers; effective planning and co-ordination of contracted work
- Principles of assessing and managing contractors
 - scale of contractor use
 - pre-selection and management of contractors
- Shared responsibilities in the case of joint occupation of premises: co-operation and co-ordination.

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

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- 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, worker handbooks
 - co-operation and consultation with the workforce and contractors where applicable (roles and benefits of worker participation, safety committees and worker feedback)
- 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

- Meaning of hazard, 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:
 - workers, 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

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- 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 / worker / legislative changes; passage of time)
- Special case applications to young persons, expectant and nursing mothers; disabled workers and lone workers.

3.6 Preventive and protective measures

- General principles of the preventive and protective measures with reference to ILO-OSH 2001: Guidelines on Occupational Safety and Health Management Systems:
 - eliminate the hazard/risk;
 - control the hazard/risk at source, through the use of engineering controls or organizational measures;
 - minimize the hazard/risk by the design of safe work systems, which include administrative control measures;
 - where residual hazards/risks cannot be controlled by collective measures, the employer should provide for appropriate personal protective equipment, including clothing, at no cost, and should implement measures to ensure its use and maintenance.

Hazard prevention and control procedures or arrangements should be established and should:

- be adapted to the hazards and risks encountered by the *organization*;
- be reviewed and modified if necessary on a regular basis;
- comply with national laws and regulations, and reflect good practice;
- consider the current state of knowledge, including information or reports from *organizations*, such as labour inspectorates, occupational safety and health services, and other services as appropriate.

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) publications, trade associations; International, European and British Standards, ILO (International Labour Organisation) Occupational Safety and Health Administration (USA), Worksafe (Western Australia) 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 responsibility to provide safe systems of work
- Role of competent persons in the development of safe systems
- Importance of worker involvement in the development of safe systems

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- 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 confined spaces and lone working and working and travelling abroad in relation to safe systems of work.

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

- Meaning of permit-to-work system
- Role and function in controlling a permit-to-work
- 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
- 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 incidents, dangerous occurrences, near misses, ill-health, complaints by workforce and enforcement action.

4.2 Investigating incidents

- Role and 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

- Internal systems for collecting, analysing and communicating data

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- Organisational requirements for recording and reporting incidents
- Reporting of events to external agencies. Typical examples of major injuries, diseases and dangerous occurrences that might be reportable to external agencies
- Lessons learnt.

Recommended tuition time not less than 5 hours

Element 5: Health and safety management systems 4 - 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

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- 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 IGC1: Tutor References

Directives, Conventions and Recommendations

Reference title	Reference detail eg link to Convention	Element/s
Occupational Safety and Health Convention, 1981 (C155)	ILO C155	1, 3
Occupational Safety and Health Recommendation, 1981 (R164)	ILO R164	1, 3
Safety and Health in Construction Convention, 1988 (C167)	ILO C167	3
Safety and Health in Construction Recommendation, 1988 (R175)	ILO R175	3

Other relevant international references

Reference title	Reference detail eg ISBN number	Element/s
Global Database on Occupational Safety and Health Legislation (LEGOSH)	ILO	1, 3
Guidelines on occupational safety and health management systems	ILO, ILO OSH 2001	1, 2, 3, 4, 5
Guidelines for auditing management systems	ISO 19011:2011	5
Occupational health and safety management systems – requirements with guidance for use	ISO 45001:2018 ISBN: 978-0-580-86393-6	2, 3
Recording and notification of occupational accidents and diseases , ILO Code of Practice, Geneva, 1996	ISBN: 92-2-109451-0	4
Safety and health in construction , ILO Code of Practice	ILO Geneva, ISBN: 92-2-107104-9	3
Training package on workplace risk assessment and management for small and medium size enterprises, 2013	ILO Geneva, ISBN: 978-92-2-127065-2 (web pdf)	3

Relevant UK references

Reference title	Reference detail eg ISBN number	Element/s
Example risk assessments	HSE	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
Investigating Incidents and Accidents at Work, HSG245	HSE Books, ISBN: 978-0-7176-2827-8	4
Reducing Error and Influencing Behaviour, HSG48	HSE Books, ISBN: 978-0-7176-2452-2	3
Risk assessment, a brief guide to controlling risks in the workplace, INDG163	HSE Books	3
Safe Work in Confined Spaces, Approved Code of Practice, Regulations and guidance, L101	HSE Books, ISBN: 978-0-7176-6233-3	3

5.2 Unit ICC1: Managing and controlling hazards in international construction activities

Element 1: Construction management

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 Identify the scope, definition and particular issues relating to construction activities
- 1.2 Outline the ethical and financial reasons for managing health and safety within the construction industry
- 1.3 Outline key aspects for the successful management of safe construction activities
- 1.4 Identify the nature and main sources of external construction health and safety information.

Content

1.1 Scope, definition and particular issues relating to construction activities

- Types of work and the meaning of construction in Article 2 of the ILO Safety and Health Convention C167 and the ILO Code of Practice on safety and health in construction:
 - building works
 - renovation
 - alteration
 - maintenance of existing premises (occupied or unoccupied)
 - civil engineering construction
 - decommissioning
 - demolition
 - dismantling
- Range of activities:
 - site clearance
 - demolition
 - excavation
 - loading, unloading and storage of materials
 - site movements
 - fabrication
 - decoration
 - cleaning
 - installation, removal and maintenance of services (electricity, water, gas)
 - landscaping

- Meaning of 'excavation' (eg earthwork, trench work, shaft, tunnel or underground working)
- Meaning of 'structure' (eg any building, timber, masonry, metal or reinforced concrete structure, caisson, mast, tower)
- Particular construction issues relating to the:
 - transitory nature of workers
 - temporary nature of construction activities and the constantly changing workplace
 - time pressures from clients
 - weather and extreme climatic conditions
 - levels of numeracy and literacy of workers
 - communicating with workers speaking different languages.

1.2 The ethical and financial reasons for managing health and safety within the construction industry

- The size of the construction health and safety 'problem' in terms of numbers of work related fatalities, injuries and incidence of ill-health
- Prime concerns and priorities in relation to the above.

1.3 The management of construction activities

- The role of clients, designers, competent persons, principal contractors and contractors in relation to:
 - appointment and competence of relevant parties
 - provision of information
 - pre-employment health assessment
- The need for the client to appoint a competent person to co-ordinate all activities relating to the safety and health of the construction project (ILO CoP 2.7)
- The benefits, role, purpose and content of a health and safety plan
- The benefits, role, purpose and content of a health and safety file.

1.4 External sources of information on health and safety

- External to the organisation (including manufacturers' data, relevant local legislation, ILO, HSE publications, trade organisations, (such as SafeWork Dubai, International/ European/ British Standards, IT sources).

Recommended tuition time not less than 5 hours

Element 2: Construction site – hazards and risk control

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 factors which should be considered when carrying out an initial assessment of a site to identify significant hazards and their risks
- 2.2 Explain the appropriate general site control measures needed in setting up and organising a site
- 2.3 Identify the welfare facilities required on construction sites
- 2.4 Explain the hazards and appropriate control measures for violence at work
- 2.5 Explain the hazards of substance misuse on health and safety at work and control measures
- 2.6 Explain the hazards associated with the movement of people on construction sites and the control measures for pedestrians.

Content

2.1 Initial site assessment

- Previous / current use (including green / brown field site and existing occupied/unoccupied premises)
- History of site (including likelihood of asbestos, other contaminants and underground voids)
- Area of site, restrictions
- Topography and ground conditions
- Weather and climatic conditions
- Other (non-construction) activities on site
- Nature of surroundings, proximity and features of roads, footpaths, railways, waterways, residential / commercial / industrial properties, schools etc
- Means of access
- Presence of overhead and buried services.

2.2 General site control measures

- Site planning (including arrangements for site access, roadways, storage, loading and unloading, offices, lighting and signs, remediation works and provision of utility services)
- Site preparation for specialist activities (including lifting, piling and steelworks)
- Responsibility of client and principal contractors for the preparation of site waste management plans

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- Working on dispersed sites and very remote locations (ILO CoP 2.2.13)
- Protection from native wildlife such as insects, wild animals etc
- Site security and means of protecting the public, including trespass by children (perimeter fencing, signs, safe viewing points, means of securing plant, chemicals, means of controlling environmental dangers such as mud/sand on public roads)
- Arrangements with client / occupier of premises (including site rules, co-operation, shared facilities, e.g., first aid, visitors and protection of other workers)
- Arrangements for site inductions
- Working in occupied premises.

2.3 Welfare facilities required on construction sites

- Provision of accommodation and welfare facilities, both temporary and fixed (sleeping accommodation, recreational, religious and cultural facilities, sanitary conveniences, washing facilities, drinking water, changing areas, accommodation for clothing, rest, food/drink preparation and eating facilities, ventilation, heating and lighting of facilities) and first aid
- The effects of exposure to sunlight and inclement weather and preventive measures
- The effects of extreme temperature and preventative measures (hot and cold).

2.4 Violence at work

- Risk factors relating to violence at work (both between workers and third parties).
- Control measures to reduce risks from violence at work.

2.5 Substance misuse at work

- Risks to health and safety from alcohol and drugs (prescribed and controlled) at work.
- Control measures to reduce risks from misuse of alcohol and drugs at work.

2.6 Safe movement of people on construction sites

- Hazards and risks to pedestrians:
 - slips, trips and falls on the same level
 - falls from a height
 - collisions with moving vehicles; striking by moving, flying or falling objects
 - striking against fixed or stationary objects, including treading on sharp items
 - hazards to the general public caused by construction activities, including construction activities on public highways
 - conditions and environments in which each hazard may arise

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- Control measures for pedestrian hazards: slip resistant surfaces; spillage control and drainage; designated walkways; fencing and guarding; use of signs and personal protective equipment (in particular, head and foot protection); information, instruction, training and supervision
- Maintenance of a safe workplace:
 - cleaning and housekeeping requirements
 - access and egress
 - environmental considerations (heating, lighting, noise and dust), including maintenance activities
- The particular measures needed to protect site personnel and members of the public while working on public highways, including signing, lighting and guarding.

Recommended tuition time not less than 5 hours

Element 3: Vehicle and plant movement – hazards and risk control

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 hazards and control measures for the safe movement of vehicles and plant within a construction environment, including when using public highways as a workplace
- 3.2 Outline the factors associated with driving at work that increase the risk of an incident and the control measures to reduce work-related driving risks.

Content

3.1 Safe movement of vehicles and plant within a construction environment

- Hazards from workplace vehicles and plant:
 - typical hazards leading to loss of control; overturning of vehicles
 - collisions with other vehicles/plant, pedestrians and fixed objects
 - non-movement related hazards eg loading, unloading and securing loads; sheeting;
 - coupling; vehicle maintenance work
- Control measures to reduce the risk from the movement of vehicles and plant:
 - suitability and sufficiency of traffic routes; management of vehicle movements; environmental considerations (visibility, gradients, changes of level, surface conditions); maintenance of vehicles; driver protection and restraint systems; segregating of pedestrians and vehicles and measures to be taken when segregation is not practicable; protective measures for people and structures (barriers, marking signs, warnings of vehicle approach and reversing); site rules; selection and training of drivers; management systems for assuring driver competence including local codes of practice.

3.2 Driving at work

- Extent of work-related road injuries
- Factors associated with driving at work that increase the risk of being involved in a road traffic incident (distance, driving hours, work schedules, stress due to traffic and weather conditions etc)
- Managing work-related road safety:
 - policy covers work-related road safety
 - systems to manage work-related road safety
 - monitoring performance to ensure policy is effective, eg collection of information, reporting of work-related road incidents by workers

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- organisation and structure (to allow co-operation across departments with different responsibilities for work-related road safety)
- legal responsibilities of individuals on public roads
- Risk assessment
- Evaluating the risks:
 - the driver (competency, fitness and health, training)
 - the vehicle (suitability, condition, safety equipment, safety critical information, ergonomic considerations)
 - the journey (routes, scheduling, sufficient time, weather conditions)
 - avoidance of excessive working hours
- Control measures to reduce work-related driving risks.

Recommended tuition time not less than 5 hours

Element 4: Musculoskeletal – hazards and control

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 Explain work processes and practices that may give rise to musculoskeletal hazards and the appropriate control measures
- 4.2 Explain the hazards and control measures which should be considered when assessing risks from manual handling activities
- 4.3 Explain the hazards and control measures to reduce the risk in the use of lifting and moving equipment with specific reference to manual and mechanically operated load moving equipment.

Content

4.1 Musculoskeletal disorders and work-related upper limb disorders

- Meaning of musculoskeletal disorders (MSDs) and work-related upper limb disorders (WRULDs)
- Examples of repetitive construction activities that can cause MSDs and WRULDs such as digging, kerb laying, movement and fixing of plasterboard, placement and finishing of concrete slabs bricklaying, erecting/dismantling scaffolds, display screen equipment operation (eg, architects operating CAD/admin staff)
- The ill-health effects of poorly designed tasks and workstations
- The factors giving rise to ill-health conditions: task (including repetitive, strenuous tasks); environment (including lighting, glare); equipment (including user requirements, adjustability)
- Appropriate control measures including matching the workplace to individual needs of workers.

4.2 Manual handling hazards and control measures

- Common types of manual handling injury
- Assessment of manual handling risks by considering the task, the load, the individual and the working environment
- Means of avoiding or minimising the risks from manual handling construction activities with reference to the task, load, individual and working environment, eg design, automation/mechanisation
- Efficient movement principles for manually lifting loads to reduce risk of musculoskeletal disorders due to lifting, poor posture and repetitive or awkward movements.

4.3 Manual and mechanically operated load handling equipment

- Hazards and controls for mechanically operated load handling equipment (fork-lift trucks (including rough terrain), telehandlers, dumper trucks, excavators, lifts and mobile and tower cranes (including lifting accessories))
- Hazards and controls for common types of manually operated load handling aids and equipment: (wheelbarrows, sack trucks, pallet trucks), hoists (including lifting accessories)
- Requirements for lifting operations:
 - strong, stable and suitable equipment positioned and installed correctly
 - visibly marked i.e. safe working load
 - ensure lifting operations are planned, supervised and carried out in a safe manner by competent persons
 - special requirements for lifting equipment used for lifting people
- Requirements for regular visual inspection and statutory requirements for the thorough examination and inspection of lifting equipment.

Recommended tuition time not less than 7 hours

Element 5: Work equipment – hazards and risk control

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 Outline general requirements for work equipment
- 5.2 Outline the hazards and control measures for hand-held tools, both powered and non-powered
- 5.3 Describe the main mechanical and non-mechanical hazards of machinery
- 5.4 Explain the main control measures for reducing risk from common construction machinery hazards.

Content

5.1 General requirements for work equipment

- Scope of work equipment including hand tools, power tools and machinery
- Suitability as it relates to provision of equipment; including the requirement for CE (Conformité Européenne) marking
- Requirement to restrict the use and maintenance of equipment with specific risks.
- Extent of information, instruction and training to be provided in relation to specific risks and persons at risk (including users, maintenance staff and managers)
- Requirement for equipment to be maintained and maintenance to be conducted safely
- Requirements for regular visual inspection and statutory requirements for the thorough examination and inspection of work equipment
- Importance of operation and emergency controls, stability, lighting, markings and warnings, clear unobstructed workspace
- Responsibilities of users.

5.2 Hand-held tools

- Hazards and misuse of hand tools (non-powered); appropriate control measures for safe use, in particular their condition and suitability for purpose
- Hazards of common portable power tools used in construction (including pneumatic drill / chisel, electrical drill, disc cutter / cut off saw, sander, cartridge and pneumatic nail guns, chainsaw)
- Appropriate control measures for safe use of portable power tools, in particular their condition and suitability for purpose
- Suitability for location in which they are used (including flammable atmospheres); procedures for defective equipment.

5.3 Machinery hazards

- Potential **consequences** as a result of contact with, or exposure to, mechanical or other hazards as identified in ISO 12100:2010 (Table B.1)
- Hazards presented by a range of equipment, including office machinery (photocopier, document shredder), workshop machinery (including bench top grinder, pedestal drill, bench mounted circular saw, hand fed power planer, spindle moulding machine) and site machinery (including compressor, cement mixer, plate compactor, ground consolidation equipment, circular saw, road-marking equipment, electrical generators).

5.4 Control measures for machinery hazards

- The principles of operation, merits and limitations of the following methods of protection: fixed guards; interlocked guards; trip devices; adjustable/self-adjusting guards; two hand controls; hold to run; emergency stop controls; personal protective equipment; information, instruction, training and supervision
- Application of the above methods to a range of equipment listed at 5.3
- Basic requirements for guards and safety devices: compatible with process; adequate strength; maintained; allow maintenance without removal; not increase risk or restrict view; not easily by-passed.

Recommended tuition time not less than 6 hours

Element 6: Electrical 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:

- 6.1 Outline the principal hazards and risks associated with the use of electricity in the workplace
- 6.2 Outline the control measures that should be taken when working with electrical systems or using electrical equipment
- 6.3 Outline the control measures to be taken when working near or underneath overhead power lines.

Content

6.1 Hazards and risks associated with the use of electricity in the workplace

- Principles of electricity (basic circuitry, relationship between voltage, current and resistance)
- Risks of electricity:
 - electric shock and its effect on the body; factors influencing severity: (including voltage, frequency (relevance on construction sites), duration, resistance, current path)
 - electrical burns (external and internal)
 - electrical fires: (common causes – including static electricity)
 - secondary effects: (including falls from heights)
- Workplace electrical equipment including portable items: conditions and practices likely to lead to accidents (unsuitable equipment, use of defective apparatus)
- Risks associated with electricity: use of poorly maintained electrical equipment; contact with underground/overhead power cables during excavation work; work on live and dead electrical supplies; use of electrical equipment in wet and flammable/explosive environments.

6.2 Control measures

- Selection and suitability of equipment for use in construction activities:
 - protection of conductors
 - strength and capability of equipment
- Proper planning and installation of a progressively extending electrical system on site, permit-to-work procedures (including requirements of an electrical permit)
- Requirements for temporary electrical supplies
- Advantages and limitations of protective systems (fuses, earthing, isolation, reduced low voltage systems, residual current devices, double insulation)
- Use of competent persons

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- Use of safe systems of work (no live working unless no other option, isolation, locating buried services, protection against overhead cables)
- Inspection and maintenance strategies including user checks on portable electrical tools and formal inspection and testing
- Emergency procedures following an electrical incident.

6.3 Control measures for working on or near or underneath overhead power line hazards

- Avoidance where possible
- Pre-planning and consultation with service provider to enable isolation / diversion of power supply
- Ground level barriers (including goal posts, correct clearance distances)
- Restriction of equipment/vehicle reach.

Recommended tuition time not less than 4 hours

Element 7: 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:

- 7.1 Describe the principles of fire initiation, classification and spread and the additional fire risks caused by construction activities in an existing workplace
- 7.2 Outline the principles of fire risk assessment
- 7.3 Outline the principles of fire prevention and the prevention of fire spread in buildings
- 7.4 Identify the appropriate fire alarm systems and fire-fighting equipment for construction activities
- 7.5 Outline the requirements for an adequate and properly maintained means of escape in a construction workplace
- 7.6 Outline the factors which should be considered when implementing a successful evacuation of a construction workplace in the event of a fire.

Content

7.1 Principles of fire initiation, classification and spread and fire risks caused by construction activities

- Basic principles of fire:
 - fire triangle
 - sources of ignition
 - fuel and oxygen in a typical workplace
- Classification of fires (A, B, C, D and F)
- Basic principles of heat transmission and fire spread:
 - convection
 - conduction
 - radiation
 - direct burning
- Additional causes of fire by construction activities and consequences of fires during construction activities.

7.2 Fire risk assessment

- The requirement for a fire risk assessment and the matters to be addressed in carrying out the assessment (including construction work to existing premises and temporary site accommodation)
- Factors to be considered in carrying out the assessment
- Consideration of temporary workplaces and changes to workplaces
- Consideration to shared workplaces
- Site specific emergency plans.

7.3 Fire prevention and prevention of fire spread

- Control measures to minimise the risk of fire in a construction workplace:
 - elimination of, or reduction in, the use and storage of flammable and combustible materials
 - control of ignition sources (including welding and other hot work)
 - systems of work, permit-to-work procedures, requirements of a hot work permit
 - requirements for the safe storage, transport and use of liquefied petroleum and other gases in cylinders
 - good housekeeping
- Requirements for the storage of small quantities of highly flammable (up to 50 litres) or flammable (up to 250 litres) liquids
- Structural measures to prevent the spread of fire and smoke: properties of common building material; protection of openings and voids
- Use of suitable electrical equipment in flammable atmospheres.

7.4 Appropriate fire alarm systems and fire-fighting equipment for construction activities

- Common fire detection and alarm systems
- Portable fire-fighting equipment: siting, maintenance, inspection and training requirements
- The advantages and limitations of the main extinguishing media: water, foam, dry powder, carbon dioxide, gaseous.

7.5 Means of escape

- Means of escape: travel distances, stairs, passageways, doors, emergency lighting, exit and directional signs, assembly points, need for continual review as construction activity progresses.

7.6 Evacuation of the workplace

- Emergency evacuation procedures:
 - appointment of fire marshals
 - fire instructions; training
 - fire drills
 - roll call
 - provisions for the infirm and disabled.

Recommended tuition time not less than 6 hours

Element 8: Chemical and biological health – hazards and risk control

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:

- 8.1 Outline the forms of, and classification of, and the health risks from exposure to, hazardous substances
- 8.2 Explain the factors to be considered when undertaking an assessment of the health risks from substances encountered in construction workplaces
- 8.3 Explain the use and limitations of Occupational Exposure Limits including the purpose of long term and short term exposure limits
- 8.4 Outline control measures that should be used to reduce the risk of ill-health from exposure to hazardous substances
- 8.5 Outline the hazards, risks and controls associated with specific agents
- 8.6 Outline the basic requirements related to the safe handling and storage of waste on construction sites.

Content

8.1 Forms and classification of, and the health risks from hazardous substances

- Forms of chemical agent (dusts, fibres, fumes, gases, mists, vapours, liquids)
- Forms of biological agents (fungi, bacteria, viruses)
- Main classification of substances hazardous to health: irritant, corrosive, harmful, toxic, carcinogenic
- Difference between acute and chronic health effects.

8.2 Assessment of health risks

- Routes of entry of hazardous substances into the body
- Factors to be taken into account when assessing health risks.
- Sources of information, eg:
 - product labels
 - EU list of Indicative Limit Values, HSE list of Workplace Exposure Limits (UK),
 - ACGIH list of Threshold Limit Values (US)
 - manufacturers' safety data sheets and responsibility for their provision;
 - information typically to be included by supplier
- Limitations of information in assessing risks to health
- Role and limitations of hazardous substance monitoring
- Assessment of exposure to hazardous substances.

8.3 Occupational exposure limits

- Application of relevant limits (Threshold Limit Values, Workplace Exposure Limits, Maximum Allowable Concentrations, etc)
- Long term and short term limits
- Limitations of exposure limits
- International variations and attempts at harmonisation (eg, EU Indicative Limit Values).

8.4 Control measures

- Duty to prevent exposure or, where this is not reasonably practicable, adequately control it
- Ensuring that Occupational Exposure Limits are not exceeded
- Principles of Good Practice as regards to control of exposure:
 - minimisation of emission, release and spread of hazardous substances through design and operation of processes
 - take into account all relevant routes of exposure, inhalation, skin absorption and ingestion, when developing control measures
 - exposure control to be proportional to health risk
 - choose the most effective and reliable control options which minimise the escape and spread of substances hazardous to health
 - where adequate control of exposure cannot be achieved by other means, use of personal protective equipment in combination with other measures
 - regular checks and review of implemented control measures to confirm continued effectiveness
 - provision of information and training to those working with hazardous substances as to the risks and use of measures to minimise the risks
 - control measures not to increase overall risk to health and safety
- Common measures used to implement the Principles of Good Practice above:
 - reduced time exposure; significance of time weighted averages
 - enclosure of hazards; segregation of process and people
 - local exhaust ventilation: general applications and principles of capture and removal of hazardous substances; components of a basic system and factors that may reduce its effectiveness; requirements for inspection
 - use and limitations of dilution ventilation
 - respiratory protective equipment: purpose, application and effectiveness; types of equipment and their suitability for different substances; selection, use and maintenance
 - other protective equipment and clothing (gloves, overalls, eye protection)
 - personal hygiene and protection regimes
 - health surveillance and biological monitoring
- Further controls of substances that can cause cancer, asthma or damage to genes that can be passed from one generation to another.

8.5 Specific agents

- Hazards, risks and controls associated with other specific agents: blood borne viruses, organic solvents, carbon dioxide, nitrogen, isocyanates, lead, carbon monoxide, cement, legionella, leptospira, silica, fibres, hepatitis, tetanus, hydrogen sulphide and the workplace circumstances in which they might be present
- Generation and control of dust on a construction site (including cement dust and wood dust)
- Health risks and controls associated with asbestos
- Good practice in the management of asbestos:
 - asbestos identification (types of survey and who can undertake them, where it can be located)
 - procedure for the discovery of asbestos during construction activities
 - requirements if persons are accidentally exposed to asbestos materials
 - requirements for removal
 - respiratory equipment, protective clothing, training, air monitoring and medical surveillance
 - requirements for disposal (licensed carrier, notification, licensed disposal site).

8.6 Safe handling and storage of waste

Basic environmental issues relating to safe handling and storage of waste (suitable PPE, separate storage of incompatible waste streams).

Recommended tuition time not less than 9 hours

Element 9: Physical and psychological health – hazards and risk control

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:

- 9.1 Outline the health effects associated with exposure to noise and appropriate control measures
- 9.2 Outline the health effects associated with exposure to vibration and appropriate control measures
- 9.3 Outline the health effects associated with ionising and non-ionising radiation and the appropriate control measures
- 9.4 Outline the causes and effects of stress at work and appropriate control measures

Content

9.1 Noise

- The physical and psychological effects on hearing of exposure to noise
- The meaning of terms commonly used in the measurement of sound; the decibel scale, dB(A) and dB(C)
- The need for assessment of exposure and relevant exposure limit values
- Basic noise control measures (isolation, absorption, insulation, damping and silencing); the purpose, application and limitations of personal hearing protection (types, selection, use, maintenance and attenuation factors)
- Role of monitoring and health surveillance.

9.2 Vibration

- The effects on the body of exposure to vibration, with particular reference to hand-arm vibration and whole body vibration
- The need for assessment of exposure, including relevant limit and action values
- Basic vibration control measures including choice of equipment, maintenance, limiting exposure (including duration and magnitude, work schedules/rest periods, clothing to protect against cold)
- Role of monitoring and health surveillance.

9.3 Radiation

- The types of, and differences between, ionising radiation (including radon) and non-ionising radiation (including lasers and the effects of sunlight) and their health effects
- Typical occupational sources of ionising and non-ionising radiation

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- The basic means of controlling exposures to ionising and non-ionising radiation
- The basic means of controlling exposures to radon
- Basic radiation protection strategies
- The role of monitoring and health surveillance.

9.4 Stress

- Causes, effects and control measures (demand, control, support, relationships, role, change).

Recommended tuition time not less than 6 hours

Element 10: Working at height – hazards and risk control

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:

- 10.1 Explain the hazards and risks of working at height and the general requirements necessary to control them
- 10.2 Explain safe working practices for access equipment and roof work
- 10.3 Outline the control measures necessary to protect other persons not involved in the work at height
- 10.4 Outline the particular control measures to reduce risk when working over or near to water.

Content

10.1 Working at height hazards and risks

- Examples of work activities involving a risk of injury from falling from height, and the significance of such injuries
- Basic hazards and factors affecting the risk from working at height (including good design, vertical distance, fragile roofs, roof-lights, voids, deterioration of materials, unprotected edges, unstable/poorly maintained access equipment, weather and falling materials)
- Methods of avoiding working at height
- Main precautions necessary to prevent falls and falling materials, including good design, proper planning and supervision of work, avoiding working in adverse weather conditions
- Emergency rescue plans
- Provision of equipment, training, instruction and other measures to minimise distance and consequences of a fall
- Requirements for head protection
- Inspection requirements for work equipment.

10.2 Safe working practices for access equipment and roof work

- Scaffolding:
 - design features of independent tied, putlog, fan, cantilevered and mobile tower scaffolds
 - safety features (including sole-boards, base-plates, toe-boards, guardrails, boarding, brick guards, debris netting)
 - requirements for scaffold erectors
 - means of access
 - design of loading platforms
 - scaffold hoists (persons, materials)

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- ensuring stability: effects of materials, weather, sheeting, etc; protection from impact of vehicles; inspection requirements
- mobile elevating work platforms
- Use of ladders, stepladders, trestles, staging platforms, and leading edge protection systems
- Other techniques:
 - boatswain's chair
 - cradles (including suspension from cranes)
 - rope access
- Fall arrest equipment:
 - harnesses
 - safety nets
 - soft landing systems
 - crash decks
 - emergency procedures (including rescue)
 - suspension trauma in the use of rope and harnesses
- Roof work:
 - means of access
 - edge and leading edge protection
 - crawling boards
 - fall arrest equipment.

10.3 Protection of others

- Demarcation, barriers, tunnels, signs
- Marking, lighting
- Sheeting, netting and fans
- Head protection.

10.4 Working over or near water

Prevention of drowning, additional appropriate control measures (including buoyancy aids and safety boat).

Recommended tuition time not less than 7 hours

Element 11: Excavation work and confined spaces – hazards and risk control

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:

- 11.1 Explain the hazards and risk assessment of excavation work
- 11.2 Explain the control measures for excavation work
- 11.3 Explain the hazards associated with confined space working
- 11.4 Outline the control measures for confined space working.

Content

11.1 Excavation hazards and risk assessment

- The hazards of work in and around excavations: buried services, falls of persons, equipment, material into excavation, collapse of sides, collapse of adjacent structures, water ingress, use of cofferdams and caissons, contaminated ground, **toxic and asphyxiating atmospheres, mechanical hazards**
- Overhead hazards, including power lines
- Risk assessment; factors to consider (depth, soil type, type of work, use of mechanical equipment, proximity of roadways/structures/etc, presence of public, weather, etc).

11.2 Control measures for excavation work

- Controls:
 - identification, detection and marking of buried services; safe digging methods
 - methods of supporting excavations (eg steel sheets, support boxes)
 - means of access
 - crossing points
 - barriers, lighting and signs
 - safe storage of spoil
 - de-watering methods, including well points and sump points
 - positioning and routing of vehicles, plant and equipment
 - personal protective equipment
- Particular requirements for contaminated ground (soil testing, welfare facilities, health surveillance, etc)
- Inspection requirements for excavations and excavation support systems.

11.3 Confined spaces hazards

- Meaning of the term 'confined space'
- Typical confined spaces found during construction activities (eg, trenches, sewers, chambers, tanks, pits, cellars etc)
- Hazards and risks associated with confined spaces: exposure to toxic, explosive and oxygen deficient atmospheres; heat; water; free-flowing solids; restricted space.

11.4 Control measures for confined space working

- Precautions for safe entry:
 - avoidance where possible
 - risk assessment and planning
 - permit-to-work procedures; requirements of permit and lock off
 - training; use of competent persons
 - atmospheric testing
 - means of access
 - personal protective equipment
- Monitoring arrangements
- Emergency arrangements.

Recommended tuition time not less than 5 hours

Element 12: Demolition and deconstruction – hazards and risk control

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:

- 12.1 Identify the main hazards of demolition and deconstruction work
- 12.2 Outline the control measures for demolition and deconstruction work
- 12.3 Identify the purpose and scope of a pre-demolition, de-construction, refurbishment survey
- 12.4 Outline the main control measures that a demolition/refurbishment method statement should include.

Content

12.1 Demolition and deconstruction hazards

- The meaning of:
 - deconstruction
 - piecemeal demolition
 - deliberate controlled collapse
- The selection of the appropriate method
- Hazards relating to deconstruction and demolition:
 - premature collapse
 - falls and falling materials
 - plant, vehicles and other equipment overturning
 - manual handling
 - dust and fume
 - noise and vibration
 - existence of services (including gas, electricity and water)
 - hazardous substances
 - dilapidation.

12.2 Control measures

- Control measures for demolition work:
 - avoidance of premature collapse
 - protection from falls and falling material
 - siting and use of plant, vehicles and other equipment
 - dust and fume
 - noise and vibration
 - protection of the environment
 - competence of the workforce
 - pre-demolition investigation /survey
 - type of structure, method of construction, structural condition

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- presence of cellars, etc
- identification of services
- presence of hazardous substances (particularly asbestos)
- waste management – on-site segregation and off-site disposal
- access and egress from the site
- proximity and condition of other structures, roadways, etc.

12.3 Purpose and scope of pre-demolition or deconstruction, refurbishment survey

- Carrying out a pre-demolition survey
- Competent person to carry out investigations eg, structural engineers, asbestos surveyors etc
- Identification of key structural elements including pre and post tensioned components
- Identification of location and type of services
- Identification, significance and extent of any dilapidation of the structure
- Review of drawings, structural calculations, health and safety file etc related to the structure
- Review of all structural alterations carried out on the structure in the past
- Selection of appropriate method of deconstruction and demolition depending on the type of structure.

12.4 Control measures that a method statement should include

- Services
 - isolations
 - temporary services
- Soft strip requirements
- Working at height access including scaffolding
- Protection of public, third parties and surrounding structures
- Emergency arrangements
- Waste management – on-site segregation and off-site disposal
- Competence of workforce
- Communications
- Asbestos
- Control measures for identified hazards
- Plant and equipment
- Access and egress from site
- Training and welfare arrangements
- Names responsible person
- Co-ordination of work activities

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- Demolition/deconstruction method statement:
 - type and sequence of demolition: piecemeal, controlled collapse, pre-weakening
 - isolation or diversion of services
 - equipment to be used
 - protection of public and others
 - site access and security
 - access and egress
 - training and welfare arrangements
 - named responsible persons
 - co-ordination of work activities on site
 - separation and disposal of waste
 - emergency procedures.

Recommended tuition time not less than 3 hours

Unit ICC1 Tutor References

Directives, Conventions and Recommendations

Details	Reference details	Element/s
Directive 2012/18/EU, the control of major-accident hazards involving dangerous substances (Sevesco III)	Directive 2012/18/EU	7, 8
Directive 92/57/EEC – temporary or mobile construction sites	Directive 92/57/EEC	1, 2
Directive 2013/35/EU on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields)	Directive 2013/35/EU	9
ILO Asbestos Convention, 1986 (No 162)	C162	8
ILO Asbestos Recommendation, 1986 (No 172)	R172	8
ILO Safety and Health in Construction Convention, 1988 (No 167)	C167	1 - 12
ILO Safety and Health in Construction Recommendation, 1988 (No 175)	R175	1 - 12

Other relevant references

Reference title	Reference details eg ISBN number	Element/s
Ambient Factors in the Workplace, ILO Code of Practice	ISBN: 92-2-111628-X	6, 8, 9
An ILO Code of Practice on HIV/AIDS and the world of work	ISBN: 92-2-112561-0	8
Cranes – competency requirements for crane inspectors	ISO 23814:2009	4
Cranes – Inspections (ISO 9927 series)	ISO 9927-1:2013, Part 1: General ISO 9927-3:2005, Part 3: Tower cranes	4
Cranes, safe use (ISO 12480 serie)	ISO 12480-1:1997 Part 1: General ISO 12480-3:2005 Part 3: Tower cranes ISO 12480-4:2007 Part 4: Jib cranes	4
Ergonomic Checkpoints	ILO guidance, ISBN: 978-92-2-122666-6	4, 5
ILO Safety and Health in Construction, ILO Code of Practice , 1992	ISBN: 92-2107104-9	1 - 12
ILO Stress prevention at work checkpoints	ISBN: 978-92-2-125638-0 Link to "stress prevention"	9
ISO 39001:2012, Road traffic safety (RTS) management systems – requirements with guidance for use	ISBN: 978-0-5806-6851-7	3
Management of alcohol and drug-related issues in the work place, Code of Practice , 1996	ISBN: 92-2-109455-3	2
Occupational exposure to airborne substances harmful to health, ILO CoP	ISBN: 92-2-102442-3 Link to '...airborne substances...'	8
Safety and health in the use of machinery, ILO Code of Practice , 2013	ISBN: 97-092-2-127726-2	4, 5

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Reference title	Reference details eg ISBN number	Element/s
Safety of machinery - General principles for design – Risk assessment and risk reduction	ISO 12100:2010	5
Safety in the use of asbestos, ILO CoP	ISBN: 92-2-103872-6 Link to Safety in the use of asbestos	8
Safety in the use of chemicals at work, ILO CoP	ISBN: 92-2-108006-4 Link to '...chemicals at work ...'	8

Other relevant UK references

Reference title	Reference detail eg ISBN number	Element/s
A short guide to making your premises safe from fire (05 FRSD 03546)	DCLG Publications, ' ...making your premises safe... '	7
A step by step guide to COSHH assessment, HSG97	HSE Books, ISBN: 978-0-7176-2785-1	8
Avoiding danger from overhead power lines, Guidance Note GS6	HSE Books	6, 11
Avoiding danger from underground services, HSG47	HSE Books, ISBN: 978-0-7176-6584-6	6, 11
Code of practice for full and partial demolition	BS 6187:2011 ISBN: 978-0-5806-5566-1	12
Controlling airborne contaminants at work, A guide to local exhaust ventilation (LEV), HSG258	HSE Books, ISBN: 978-0-7176-6415-3	8
Controlling noise at work, L108	HSE Books, ISBN: 978-0-7176-6164-4	9
Dangerous substances and explosive atmosphere, ACoP and guidance L138	HSE Books, ISBN: 978-0-7176-6616-4	7
Driving at work, Managing work-related road safety, INDG382	HSE Books	3
EH40 /2005 Workplace exposure limits	HSE Books, ISBN: 978-0-7176-6446-7	8
Fire safety in construction, HSG168	HSE Books, ISBN: 978-0-7176-6345-3	7
Hand-arm vibration, L140	HSE Books, ISBN: 978-0-7176-6125-1	9
Health and safety in roof work, HSG33	HSE Books, ISBN: 978-0-7176-6527-3	10, 11
HSE Stress Management Standards	http://www.hse.gov.uk/stress/standards/	9
Personal protective equipment at work, L25	HSE Books, ISBN: 978-0-7176-6139-3	8, 9, 12
Protecting the public, HSG151	HSE Books, ISBN: 978-0-7176-6294-4	10, 11, 12
Respiratory protective equipment at work, HSG53	HSE Books, ISBN: 978-0-7176-6454-2	8
Rider-operated lift trucks, Operator training and safe use, L117	HSE Books, ISBN: 978-0-7176-6441-2	4, 5
Safety at street works and road works: a code of practice 2013	Published 20 July 2011 by the Department for Transport ISBN: 978-0-1155-3145-3	3
Safe work in confined spaces, L101	HSE Books, ISBN: 978-0-7176-6622-5	11
The health and safety toolbox, How to control risks at work, HSG268	HSE Books, ISBN: 978-0-7176-6587-7	9

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Reference title	Reference detail eg ISBN number	Element/s
The safe use and handling of flammable liquids, HSG140	HSE Books, ISBN: 978-0-7176-0967-3	7
The safe use of vehicles on construction sites, HSG144	HSE Books, ISBN: 978-0-7176-6291-3	3
The storage of flammable liquids in containers, HSG51	HSE Books, ISBN: 978-0-7176-1471-4	7
Whole-body vibration, L141	HSE Books, ISBN: 978-0-7176-6126-8	9
Working with ionising radiation, Approved Code of Practice and guidance (draft), L121	HSE Books, ISBN: 978-0-7176-6662-1	9

5.3 Unit ICC2: International construction health and safety practical application

Learning outcomes

- Demonstrate the ability to apply knowledge of the unit IGC1 and ICC1 syllabus, by successful completion of an health and safety inspection of a workplace
- Complete a report to management regarding the inspection with recommendations.

Content

This unit contains no additional syllabus content. However, completion of study for unit IGC1 and ICC1 is recommended in order to undertake the practical application unit ICC2.

5.2.1 Purpose and aim

- To carry out, unaided, a safety inspection of a workplace, identifying the more common hazards, deciding whether they are adequately controlled and, where necessary, suggesting appropriate and cost effective control measures
- To prepare a report that persuasively urges management to take appropriate action, explaining why such action is needed (including reference to possible breaches of legislation) and identifying, with due consideration of reasonable practicability, the control measures that should be implemented.

This will require candidates to apply the knowledge and understanding gained from their studies of elements of Units IGC1 and ICC1 in a practical environment and to carry out an evaluation of information gathered during the inspection. The practical application may be submitted in the candidate's own handwriting or be word processed.

The submission must include:

- Completed observation sheets covering a number and range of hazards and good practice, identifying suitable control measures and timescales;
- An introduction and executive summary
- Main findings of the completed inspection
- Conclusions which summarise the main issues identified in the candidate's workplace
- Completed recommendations table.

The time allowed to complete the assessment is not restricted but candidates should aim to complete the inspection and the report in two hours.

5.2.2 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 ICG1 and/or ICC2.

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

5.2.3 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 health and safety inspection and report undertaken to fulfil the requirements of unit ICC2, which is **for educational purposes only**. It *does not* constitute an assessment for the purposes of any legislation or regulations.

5.2.4 Assessment requirements

Assessment of the practical unit (ICC2) must normally take place within 10 working days of (before or after) the date of the IGC1 and/or ICC1 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 at zero marks. The candidate will then be required to re-register (and pay the registration fee) at the next standard (or local) sitting date.

If a candidate is absent from the written papers because of illness corroborated by a doctor's note, but successfully completes the ICC2 unit within the 10 working day deadline, the result will stand. If a candidate is unable to complete the ICC2 unit under similar circumstances, NEBOSH may allow it to be taken at a later date beyond the normal 10 working day deadline.

5.2.5 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 ICC2) are available to NEBOSH by no later than **15 working days** after the date of the examination for IGC1 and/or ICC1 as appropriate.

Candidates planning to post their reports 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 proforma and final management report.

5.2.6 Further information

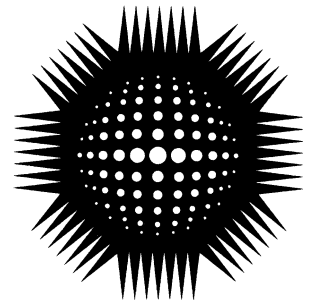
Further detailed information regarding the practical application unit including forms and mark scheme can be found in a separate guidance document for candidates and accredited course providers available from the NEBOSH website (www.nebosh.org.uk): *“Unit ICC2: International construction health and safety practical application: Guidance and information for accredited course providers and candidates”*.

6. Sample examination papers

6.1 Unit IGC1: Management of international health and safety

NEBOSH

UNIT IGC1: MANAGEMENT OF INTERNATIONAL
HEALTH AND SAFETY



nebosh

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

[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 the answer to each question on the correspondingly numbered page of the answer book.

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 A fire has occurred at a workplace and a worker has been badly injured.
- (a) **Outline** the process for investigating the accident. (10)
 - (b) **Outline** why the investigation report needs to be submitted to senior management. (5)
 - (c) In addition to senior managers, **identify** who may need to know the outcome of the investigation. (5)

SECTION 2

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

- | | | |
|-----|---|-----|
| 2 | Outline the key elements of a health and safety management system. | (8) |
| 3 | | |
| (a) | (i) Give the meaning of the term 'hazard'. | (2) |
| | (ii) Give the meaning of the term 'risk'. | (2) |
| (b) | Identify means of hazard identification that may be used in the workplace. | (4) |
| 4 | | |
| (a) | Outline the main health and safety responsibilities of an employer. | (6) |
| (b) | Identify actions that an enforcement agency could take if it finds that an employer is not meeting his/her responsibilities. | (2) |
| 5 | | |
| | Identify precautions that could be taken to help ensure the health and safety of visitors to a workplace. | (8) |
| 6 | | |
| | A university has a security worker who works alone when all staff and students have left. | |
| | Outline what needs to be considered in order to reduce the health and safety risks to this lone worker. | (8) |
| 7 | | |
| | Outline potential barriers to achieving good standards of health and safety. | (8) |
| 8 | | |
| (a) | Give the meaning of the term ' <i>permit-to-work</i> '. | (2) |
| (b) | Identify THREE types of activity that may require a permit-to-work AND give the reason why in EACH case. | (6) |

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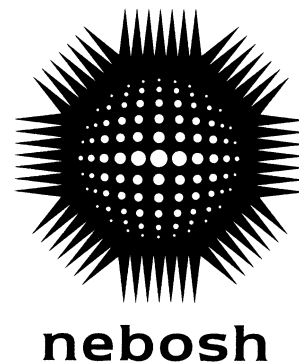
- 9 (a) **Explain** the difference between consulting and informing workers of health and safety issues. (2)
- (b) **Outline** factors that may determine the effectiveness of a health and safety committee. (6)
- 10 **Identify** documentation that is likely to be inspected in a health and safety audit. (8)
- 11 (a) **Outline** why it is important for an organisation to set health and safety targets. (2)
- (b) **Identify** health and safety targets that an organisation could set. (6)

6.2 Unit ICC1: Managing and controlling hazards in international construction activities

NEBOSH

**NEBOSH INTERNATIONAL CERTIFICATE IN
CONSTRUCTION HEALTH AND SAFETY**

**UNIT ICC1: MANAGING AND CONTROLLING HAZARDS IN
INTERNATIONAL CONSTRUCTION ACTIVITIES**



[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 the answer to 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.

- | | | |
|----------|--|-------------|
| 1 | (a) Identify hazards on site that can increase the risk of a dumper truck overturning. | (8) |
| | (b) Identify features that should be present on a dumper truck to protect the driver in the event of the dumper truck overturning. | (2) |
| | (c) Outline safe driving practices that should be included on a training course for dumper truck drivers. | (10) |

SECTION 2

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

- 2** Hot work is to be carried out in the evening during the refurbishment of an office building when it is unoccupied.
- Outline** a safe system of work to minimise the risk of fire:
- (a) during the work; (4)
 - (b) after the work is completed. (4)
- 3** A petrol-driven chainsaw is to be used to remove the branches from a tree that has been felled.
- (a) **Identify** mechanical hazards associated with the use of the chainsaw. (4)
 - (b) **Identify** non-mechanical (*other*) hazards associated with the use of the chainsaw. (4)
- 4**
- (a) **Identify** types of *ionising* radiation. (2)
 - (b) **Identify** sources of *ionising* radiation in the construction industry **AND**, in **EACH** case, **outline** how construction workers can be exposed to the radiation. (6)
- 5** When managing construction activities, **outline**:
- (a) the role of the designer; (4)
 - (b) the role of the client. (4)
- 6** **Outline** issues that should be considered when developing emergency arrangements for work that is to be carried out over water. (8)
- 7**
- (a) **Identify** the health risks from exposure to unacceptable levels of silica dust in the workplace. (4)
 - (b) **Outline** control measures that could be considered to control levels of silica dust in the workplace. (4)

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- 8 (a) **Outline** types of injury that may be caused by the incorrect manual handling of loads **AND give** an example of a possible cause for **EACH**. (4)
- (b) *Other than* using mechanical aids, **outline** ways to reduce the risks that could be presented by the *load*. (4)
- 9 **Identify** the main hazards that are associated with the use of a demolition machine (360 degree excavator with mechanical grab) to demolish a concrete structure. (8)
- 10 **Outline** measures that should be taken in order to minimise the risk of accidents to children who may gain access to a construction site. (8)
- 11 **Outline** control measures that could reduce the risk of electrical injury from portable electrical tools. (8)