



**The National Examination
Board in Occupational Safety
and Health (NEBOSH)**

Dominus Way,
Meridian Business Park,
Leicester LE19 1QW

Tel: +44 (0) 116 263 4700
Fax: +44 (0) 116 282 4000
Email: info@nebosh.org.uk
www.nebosh.org.uk

Version: 3
Specification date: October 2018
Publication date: February 2021

Registered Charity Number: 1010444

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National General Certificate in Occupational Health and Safety

Qualification guide for Learning Partners

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Qualification overview

Qualification overview

Qualification key features

Unit prefixes and title/s	Unit NG1: Management of health and safety Unit NG2: Risk assessment	
Assessment	Assessment Type	Assessment Time
Unit NG1	Open Book Examination (OBE)	4 hours (see 'Assessment' section for further details)
Unit NG2	Practical assessment	3 hours
Modes of study	Taught (face-to-face), open and distance learning Part-time Block release eLearning	
Notional learning hours	Unit NG1: 53 hours Unit NG2: 62 hours (See 'Notional learning hours' section for further details)	
Qualification level and number of credits	SCQF Level 6 (Equivalent to RQF Level 3) Unit NG1: 5 credits, Unit NG2: 6 credits	
Entry requirements	None	
Recommended minimum standards of English	Learner: International English Language Testing System 6.0 or higher Tutors: International English Language Testing System 7.0 or higher	
Languages available	English	
Assessment dates	On demand and standard date	
Qualification grades	The qualification grade is based on the result from Unit NG1 Distinction: 75 marks or higher Credit: 65 - 74 marks Pass: 45 - 64 marks	

Qualification summary

Qualification summary

Introduction

The National General Certificate in Occupational Health and Safety (NGC) was launched in 1989 and is recognised around the world. There are now over 200,000 people worldwide who have passed this qualification.

The qualification looks at general workplace issues and can be applied in many sectors. On completion of the qualification, your learners will be able to:

- justify the need for health and safety improvements;
- advise on duties under the main pieces of UK health and safety legislation;
- help their organisation to manage contractors;
- work within a health and safety management system;
- positively influence health and safety culture and behaviour;
- carry out a general risk assessment (using a 5-step approach) of their workplace;
- recognise workplace changes and their impacts and understand how to minimise these impacts;
- develop basic safe systems of work that include emergency arrangements and know when to use a permit-to-work system;
- take part in incident investigations; and
- help their employer check the effectiveness of the health and safety management system through monitoring, auditing and review.

A 'vital' investment in knowledge for small businesses

Chad Bott is Health and Safety Manager at Transcentral, a West Midlands-based company offering transport and storage solutions across the UK and Europe.



Chad holds four NEBOSH certificates covering general health and safety, construction, fire and the environment. Chad's NEBOSH studies helped him to develop a complete health, safety and environmental management system for the business.

"The knowledge I gained from taking my NEBOSH qualifications has been essential for Transcentral and has really supported our expansion. The transformation of the business has been immense and it simply wouldn't have been possible without my NEBOSH studies and qualifications. We now boast a five star health and safety rating from an international soft drinks manufacturer. Without NEBOSH I doubt we would have won that tender. For me, from a health and safety point of view, investing in a NEBOSH qualification is essential for any small business."

Qualification summary

Syllabus development and review

The syllabus has been developed by NEBOSH following extensive consultation with key stakeholders, notably Learning Partners, employers, standards-setting organisations, past and present learners and subject experts. NEBOSH would like to take this opportunity to thank all those who participated in the development of the revised NGC, but in particular the following:

- Qatar Steel;
- The FA Group;
- Travis Perkins;
- UAE Ministry of Education; and
- Unite the Union.



Notional learning hours

Unit	Notional learning hours			Credits
	Taught hours	Self-study hours	Assessment hours	
NG1	29	20	4	5 credits (53 hours)
NG2	39	20	3	6 credits (62 hours)

A full-time block release course would take approximately 9½ days and a part-time day release course would be spread over approximately 10 weeks. For learners 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.

Teaching of syllabus content

Although the syllabus sets out the elements in a specific order, your tutors can teach the elements in any order they feel is appropriate. You will need to reflect this in the timetables which are submitted for approval as part of the accreditation process.

Elements 5 to 11 are assessed only by the practical (Unit NG2).

Qualification summary

Minimum standard of English required for learners

The standard of English required by learners studying for the NGC 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 you to determine your learners' standards of proficiency in English.

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, which combines the assessment of knowledge and understanding in written examinations with practical application of learning in the workplace.

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

NEBOSH helped me find the dream job I'd never heard of

Victoria Casey is a Risk Consultant for one of the UK's largest insurers, Aviva. Her job is to carry out surveys of business properties to provide her colleagues in underwriting with a better understanding of the risks they are providing cover for. During the survey Victoria encourages customers to reduce their risks and exposures by adopting best practice risk management procedures.



"This is my absolute dream job and I couldn't be happier," she told us. "I feel like I uncover something new every day and the learning never actually stops, which is something I really do love. It's a job I would never have got without my NEBOSH qualifications, and personally I believe it's a job that couldn't be done without them. Not only did my NEBOSH General Certificate and Fire Certificate fill in so many blanks as far as my knowledge was concerned, the qualifications gave me so much confidence and helped me, and still do help me almost every day, to demonstrate my competence. Now I'm really looking forward to taking things to the next level."

Qualification summary

Assessment

The NG1 assessment is an open book examination (OBE). Please see the NEBOSH website for assessment dates. Further details on the OBE can be found on the NEBOSH website at this link <https://www.nebosh.org.uk/open-book-examinations/>.

The NG2 assessment is a risk assessment that should be carried out in the learner's workplace. Please refer to the Unit NG2 : Risk assessment – Guidance and information for learners and Learning Partners document which can be downloaded from this link <https://www.nebosh.org.uk/qualifications/national-general-certificate/#resources>

Achieving the qualification

The NGC has two unit assessments; your learners must achieve a 'Pass' in each unit in order to be awarded the qualification.

Your learners will have **five years** to complete their qualification. The five-year period starts from the date that they passed their first successful unit (we call this the 'declaration date'). Any unit that is five or more years old will not count towards the qualification; your learner will need to retake this/these unit(s) if they still want to complete the qualification.

Qualification grading and issue of qualification parchment

The qualification grade is based only on the result from the question paper (Unit NG1). But your learners need to achieve a 'Pass' in **both** units (NG1 and NG2) before the parchment can be issued. The grading boundaries are as follows:

75+	Distinction
65-74	Credit
45-64	Pass
0-44	Refer

When your learners have completed both units, they are normally considered to have completed the whole qualification. We will send out the qualification parchment within 40 working days of their final successful unit. We will only issue individual unit certificates on written request.

Once we issue the result of the second successful unit, your learners will have 20 working days to either:

- tell us in writing that they want to re-sit a successful unit to improve their grade (see 'Re-sitting unit(s)' for further information); or

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- submit an Enquiry About Result (EAR) request; please see the EAR policy for further information: www.nebosh.org.uk/policies-and-procedures/enquiries-about-results-ears

Re-sitting unit(s)

Your learners can re-sit a unit for the following reasons:

- they have unit(s) with a 'Pass' that are five or more years old and the learner still wants to achieve the qualification;
- they were 'Referred'; or
- they want to re-sit Unit NG1 so that a higher grade can be achieved (Unit NG2 is 'Pass' or 'Refer' and does not count towards the qualification grade).

There is no limit to the number of times a learner can re-sit unit(s) within the five-year period. A refund will not be given if the learner registers to re-sit a unit before an original unit result is known. If the learner's re-sit result is lower than the original mark, they will keep the original mark awarded for the unit.

Re-sit marks are not capped.

Re-sitting NG1 to improve the grade

If your learner wants to try to improve their grade in Unit NG1, they will need to tell us in writing within 20 working days of the declaration date of their second successful unit. Otherwise, a qualification parchment will automatically be issued showing the original declaration date.

Conflict of interest

Your employees (eg head of Learning Partner, tutors, administrators, examinations officers, invigilators, etc) must declare in writing to NEBOSH any employee and/or family, spouse or other close personal relationship with any person undertaking a NEBOSH examination or assessment. Further information can be found in the 'Instructions for conducting examinations' document.

Available resources

In addition to this guide, the following resources are downloadable from the NEBOSH website:

- NG2 Guidance for Learning Partners and learners;
- Assessment pack for Unit NG2;
- Tutor references;
- Leaflet;
- Case studies.

Syllabus

Syllabus

Syllabus summary

Element		Recommended tuition hours	Recommended self-study hours	Assessment
1	Why we should manage workplace health and safety	6	20	Open Book Examination (OBE)
2	How health and safety management systems work and what they look like	2		Unit NG1: Management of health and safety
3	Managing risk – understanding people and processes	14		Elements 1.1, 1.2 and 3.4 are also assessed by the practical assessment (Unit NG2)
4	Health and safety monitoring and measuring	7		

Element		Recommended tuition hours	Recommended self-study hours	Assessment
5	Physical and psychological health	7	20	Practical assessment Unit NG2: Risk assessment
6	Musculoskeletal health	6		
7	Chemical and biological agents	6		
8	General workplace issues	10		
9	Work equipment	5		
10	Fire	3		
11	Electricity	2		

Syllabus

Learning outcomes and assessment criteria

Learning outcome The learner will be able to:	Related content	Assessment criteria	Assessment
Justify health and safety improvements using moral, financial and legal arguments	1.1–1.2	Discuss the moral, financial and legal reasons for managing health and safety in the workplace Explain how the law works and the consequences of non-compliance	OBE, practical
Advise on the main duties for health and safety in the workplace	1.3	Summarise the main health and safety duties of employers and workers in HSWA 1974 and MHSWR 1999	OBE
Help their organisation manage contractors	1.4	Explain how contractors should be selected, monitored and managed	OBE
Work within a health and safety management system, recognising what effective general policy, organisation and arrangements should look like	2.1–2.2	Give an overview of the elements of a health and safety management system and the benefits of having a formal/certified system Discuss the main ingredients of health and safety management systems that make it effective – general policy, organisation, arrangements	OBE
Positively influence health and safety culture and behaviour to improve performance in their organisation	3.1–3.3	Describe the concept of health and safety culture and how it influences performance Summarise how health and safety culture at work can be improved Summarise the human factors which positively or negatively influence behaviour at work in a way that can affect health and safety	OBE

Syllabus

Learning outcome The learner will be able to:	Related content	Assessment criteria	Assessment
Do a general risk assessment in their own workplace – profiling and prioritising risks, inspecting the workplace, recognising a range of common hazards, evaluating risks (taking account of current controls), recommending further control measures, planning actions	1.1 1.2 3.4 5–11	Explain the principles of the risk assessment process and Produce a risk assessment of a workplace which considers a wide range of identified hazards (drawn from elements 5–11) and meets best practice standards ('suitable and sufficient')	OBE, practical
Recognise workplace changes that have significant health and safety impacts and effective ways to minimise those impacts	3.5	Discuss typical workplace changes that have significant health and safety impacts and ways to minimise those impacts	OBE
Develop basic safe systems of work (including taking account of typical emergencies) and knowing when to use permit-to-work systems for special risks	3.6–3.8	Describe what to consider when developing and implementing a safe system of work for general activities Explain the role, function and operation of a permit-to-work system Discuss typical emergency procedures (including training and testing) and how to decide what level of first aid is needed in the workplace	OBE

Syllabus

Learning outcome The learner will be able to:	Related content	Assessment criteria	Assessment
Take part in incident investigations	4.2	Explain why and how incidents should be investigated, recorded and reported	OBE
Help their employer to check their management system effectiveness – through monitoring, audits and reviews	4.1, 4.3, 4.4	<p>Discuss common methods and indicators used to monitor the effectiveness of management systems</p> <p>Explain what an audit is and why and how it is used to evaluate a management system</p> <p>Explain why and how regular reviews of health and safety performance are needed</p>	OBE

Syllabus

Syllabus content

Important note: Where you see the asterisk (*) mark, learners are not expected to remember the section/regulation numbers but they will need to be familiar with the main requirements of the legislation.

Element 1: Why we should manage workplace health and safety

1.1 Morals and money

- Moral expectations of good standards of health and safety
- The financial cost of incidents (insured and uninsured costs)

1.2 The force of law – punishment and compensation

- Sources of law
 - > statute law: the legal status and relationships between Acts of Parliament, regulations, approved codes of practice, official guidance; absolute and qualified duties (practicable and reasonably practicable)
 - > common law: precedents and case law; the importance of common law
 - > relevance of statute and common law to criminal and civil law
- Types of law
 - > criminal law: offence against the state; prosecution to establish guilt; burden and onus of proof (see s40 Health and Safety at Work etc Act 1974)
 - > civil law: private individual seeking compensation; burden of proof; statute-barred
- Criminal law liabilities:
 - > role, functions and powers of: the Health and Safety Executive (HSE)/HSE Northern Ireland (HSENI), Procurator Fiscal (Scotland) and local authorities
 - > why fees for intervention (FFI) are charged (material breach of legislation)
 - > powers of inspectors (see s20 of the Health and Safety at Work etc. Act 1974)
 - > enforcement notices (improvement, prohibition): conditions for serving; effects; procedures; rights and effects of appeal; penalties for failure to comply
 - > simple cautions

Syllabus

Element 1: Why we should manage workplace health and safety

	<ul style="list-style-type: none"> > prosecution: summary and indictable (solemn in Scotland) offences and relevant penalties (including the disqualification of directors) > the Corporate Manslaughter and Corporate Homicide Act 2007: the offence and available penalties > defences • Civil law liabilities: <ul style="list-style-type: none"> > civil wrong (tort/delict) > tort/delict of negligence > duty of care (neighbour principle) > tests and defences for tort/delict of negligence: duty owed/duty breached/injury or damage sustained > contributory negligence > vicarious liability > the employer's legal duty to provide a safe place of work, safe plant and equipment, safe systems of work, training and supervision, and competent workers > breach of statutory duty in relation to new and expectant mothers.
1.3	The most important legal duties for employers and workers* <ul style="list-style-type: none"> • Health and Safety at Work etc Act 1974: sections 2–4, 6–9, 36 and 37 • Management of Health and Safety at Work Regulations 1999: Regulations 3–5, 7, 8, 10 and 13–14.
1.4	Managing contractors effectively <ul style="list-style-type: none"> • Planning and co-ordination of contracted work • Pre-selection and ongoing management of contractors • Roles and duties under the Construction (Design and Management) Regulations 2015 of the client, principal designer, principal contractor, contractors, workers and domestic clients: <ul style="list-style-type: none"> > HSE notification, pre-construction information, construction phase plan, health and safety file.

Element 2: How health and safety management systems work and what they look like

2.1 What they are and the benefits they bring

- The basics of a health and safety management system: the 'Plan, Do, Check, Act' model (see ISO 45001:2018 and HSG65)
- The benefits of having a formal/certified health and safety management system.

2.2 What good health and safety management systems look like

- Statement of general policy – overall aims of the organisation in terms of health and safety performance:
 - > sets overall objectives and quantifiable targets (specific, measurable, achievable, reasonable, timebound – SMART principles)
 - > considers technological options
 - > proportionate to the needs of the organisation
 - > considers financial, operational and business requirements
 - > signed by top management
 - > important role in decision making
- Defined health and safety roles and responsibilities of people within the organisation:
 - > allocation of responsibilities; lines of communication and feedback loops; the role of line managers in implementing and influencing the health and safety management system and monitoring its effectiveness
- Practical arrangements for making it work:
 - > the importance of stating the organisation's arrangements for planning and organising, controlling hazards, consultation, communication, monitoring compliance, assessing effectiveness
- Keeping it current: when you might need to review the health and safety management system, including passage of time, technological, organisational or legal changes, and results of monitoring.

Element 3: Managing risk – understanding people and processes

3.1 Health and safety culture

- Meaning of the term 'health and safety culture'
- Relationship between health and safety culture and health and safety performance
- Indicators of an organisation's health and safety culture:
 - > incidents, absenteeism, sickness rates, staff turnover, level of compliance with health and safety rules and procedures, complaints about working conditions
- Influence of peers on health and safety culture.

3.2 Improving health and safety culture

- Gaining commitment of management
- Promoting health and safety standards by leadership and example and appropriate use of disciplinary procedures
- Competent workers
- Good communication within the organisation:
 - > benefits and limitations of different methods of communication (verbal, written and graphic)
 - > use and effectiveness of noticeboards and health and safety media
 - > co-operation and consultation with the workforce and contractors, including:
 - appointment, functions and entitlements of worker representatives (trade union appointed and elected)
 - benefits of worker participation (including worker feedback)
 - the role of health and safety committees
- When training is needed:
 - > induction (key health and safety topics to be covered)
 - > job change
 - > process change
 - > introduction of new legislation
 - > introduction of new technology.

Element 3: Managing risk – understanding people and processes

3.3 How human factors influence behaviour positively or negatively

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

3.4 Assessing risk

- Meaning of hazard, risk, risk profiling and risk assessment
- Risk profiling: What is involved? Who should be involved? The risk profiling process
- Purpose of risk assessment and the 'suitable and sufficient' standard it needs to reach (see HSG65: 'Managing for health and safety')
- A general approach to risk assessment (5 steps):
 - > identify hazards:
 - sources and form of harm; sources of information to consult; use of task analysis, legislation, manufacturers' information, incident data, guidance
 - > identify people at risk:
 - including workers, operators, maintenance staff, cleaners, contractors, visitors, public
 - > evaluate risk (taking account of what you already do) and decide if you need to do more:
 - likelihood of harm and probable severity
 - possible acute and chronic health effects
 - risk rating
 - principles to consider when controlling risk (Regulation 4 and Schedule 1 of the Management of Health and Safety at Work Regulations 1999)
 - practical application of the principles – applying the general hierarchy of control (clause 8.1.2 of ISO 45001:2018)
 - application based on prioritisation of risk

Element 3: Managing risk – understanding people and processes

- use of guidance; sources and examples of legislation
- applying controls to specified hazards
- residual risk; acceptable/tolerable risk levels
- distinction between priorities and timescales
- > record significant findings
- > reasons for review
- Application of risk assessment for specific types of risk and special cases:
 - > examples of when they are required, including fire, DSE, manual handling, hazardous substances, noise
 - > why specific risk assessment methods are used for certain risks – to enable proper, systematic consideration of all relevant issues that contribute to the risk
 - > special case applications to young people, expectant and nursing mothers; also consideration of disabled workers and lone workers (see Regulations 16, 18 and 19 of the Management of Health and Safety at Work Regulations 1999*).

3.5 Management of change

- Typical types of change faced in the workplace and the possible impact of such change, including: construction works, change of process, change of equipment, change in working practices
- Managing the impact of change:
 - > communication and co-operation
 - > risk assessment
 - > appointment of competent people
 - > segregation of work areas
 - > amendment of emergency procedures
 - > welfare provision
- Review of change (during and after).

Element 3: Managing risk – understanding people and processes

3.6 Safe systems of work for general work activities

- Why workers should be involved when developing safe systems of work
- Why procedures should be recorded/written down
- The differences between technical, procedural and behavioural controls
- Developing a safe system of work:
 - > analysing tasks, identifying hazards and assessing risks
 - > introducing controls and formulating procedures
 - > instruction and training in how to use the system
- Monitoring the system.

3.7 Permit-to-work systems

- Meaning of a permit-to-work system
- Why permit-to-work systems are used
- How permit-to-work systems work and are used
- When to use a permit-to-work system, including: hot work, work on non-live (isolated) electrical systems, machinery maintenance, confined spaces, work at height.

3.8 Emergency procedures

- Why emergency procedures need to be developed
- What to include in an emergency procedure (see HSG268: 'The health and safety toolbox')
- Why people need training in emergency procedures
- Why emergency procedures need to be tested
- What to consider when deciding on first aid needs in a workplace:
 - > shift patterns
 - > location of site
 - > activities carried out
 - > number of workers
 - > location relative to hospitals/emergency services.

Element 4: Health and safety monitoring and measuring

4.1 Active and reactive monitoring

- The differences between active and reactive monitoring
- Active monitoring methods (health and safety inspections, sampling and tours) and their usefulness:
 - > differences between the methods; frequency; competence and objectivity of people doing them; use of checklists; allocation of responsibilities and priorities for action
- Reactive monitoring measures and their usefulness:
 - > data on accidents, dangerous occurrences, near misses, ill-health, complaints by workforce, and enforcement action and incident investigations
- Why lessons need to be learnt from beneficial and adverse events
- The difference between leading and lagging indicators.

4.2 Investigating incidents

- The different levels of investigations: minimal, low, medium and high (see HSG245)
- Basic incident investigation steps:
 - > step one: gathering the information
 - > step two: analysing the information
 - > step three: identifying risk control measures
 - > step four: the action plan and its implementation
- How fatalities, specified injuries, 'over 3- or 7-day injuries', diseases and dangerous occurrences must be recorded and reported.

4.3 Health and safety auditing

- Definition of the term 'audit' (clause 3.32, ISO 45001:2018)
- Why health and safety management systems should be audited, including:
 - > negative: identifying failing of a management system
 - > positive: organisational learning and assurance
- Difference between audits and inspections

Element 4: Health and safety monitoring and measuring

- Types of audit: product/services, process, system
- Advantages and disadvantages of external and internal audits
- The audit stages:
 - > notification of the audit and timetable for auditing
 - > pre-audit preparations, including competent audit team, time and resources required
 - > information gathering
 - > information analysis
 - > completion of audit report.

4.4 Review of health and safety performance

- Why health and safety performance should be reviewed
- What the review should consider:
 - > level of compliance with relevant legal and organisational requirements
 - > accident and incident data, corrective and preventive actions
 - > inspections, tours and sampling
 - > absences and sickness
 - > quality assurance reports
 - > audits
 - > monitoring data/records/reports
 - > external communications and complaints
 - > results of participation and consultation
 - > objectives met
 - > actions from previous management reviews
 - > legal/good practice developments
 - > assessing opportunities for improvement and the need for change

Element 4: Health and safety monitoring and measuring

- Reporting on health and safety performance
- Feeding review outputs into action and development plans as part of continuous improvement.

Element 5: Physical and psychological health

5.1 Noise

- The physical and psychological effects of exposure to noise
- The meaning of commonly used terms: sound pressure, intensity, frequency, the decibel scale, dB(A) and dB(C)
- When exposure should be assessed; comparison of measurements to exposure limits established by recognised standards
- Basic noise control measures, including: isolation, absorption, insulation, damping and silencing; the purpose, use and limitations of personal hearing protection (types, selection, use, maintenance and attenuation factors)
- Role of health surveillance.

5.2 Vibration

- The effects on the body of exposure to hand–arm vibration and whole-body vibration
- When exposure should be assessed; comparison of measurements to exposure limits established by recognised standards
- Basic vibration control measures, including: alternative methods of working (mechanisation where possible); low-vibration emission tools; selection of suitable equipment; maintenance programmes; limiting the time workers are exposed to vibration (use of rotas, planning work to avoid long periods of exposure); suitable PPE
- Role of health surveillance.

5.3 Radiation

- The types of, and differences between, non-ionising and ionising radiation (including radon) and their health effects
- Typical occupational sources of non-ionising and ionising radiation
- The basic ways of controlling exposures to non-ionising and ionising radiation

Element 5: Physical and psychological health

	<ul style="list-style-type: none"> • Basic radiation protection strategies, including the role of the competent person in the workplace • The role of monitoring and health surveillance.
5.4	Mental ill-health <ul style="list-style-type: none"> • The frequency and extent of mental ill-health at work • Common symptoms of workers with mental ill-health: depression, anxiety/panic attacks, post-traumatic stress disorder (PTSD) • The causes of, and controls for, <i>work-related</i> mental ill-health (see the HSE's Management Standards): <ul style="list-style-type: none"> > demands > control > support > relationships > role > change • Home–work interface: commuting, childcare issues, relocation, care of frail (vulnerable) relatives • Recognition that most people with mental ill-health can continue to work effectively.
5.5	Violence at work <ul style="list-style-type: none"> • Types of violence at work including: physical, psychological, verbal, bullying • Jobs and activities which increase the risk of violence, including: police, fire, medical, social workers, those in customer services, lone workers, those working with people under the influence of drugs and alcohol, those who handle money or valuables • Control measures to reduce risks from violence at work.
5.6	Substance abuse at work <ul style="list-style-type: none"> • Risks to health and safety from substance abuse at work (alcohol, legal/illegal drugs and solvents) • Control measures to reduce risks from substance abuse at work.

Element 6: Musculoskeletal health

6.1 Work-related upper limb disorders

- Meaning of musculoskeletal disorders and work-related upper limb disorders (WRULDs)
- Possible ill-health conditions from poorly designed tasks and workstations
- Avoiding/minimising risks from poorly designed tasks and workstations by considering:
 - > task (including repetitive, strenuous)
 - > environment (including lighting, glare)
 - > equipment (including user requirements, adjustability, matching the workplace to individual needs of workers).

6.2 Manual handling

- Common types of manual handling injury
- Good handling technique for manually lifting loads
- Avoiding/minimising manual handling risks by considering the task, the individual, the load and the working environment.

6.3 Load-handling equipment

- Hazards and controls for common types of load-handling aids and equipment: sack trucks and trolleys; pallet trucks; people-handling aids; fork-lift trucks; lifts; hoists for loads and people; conveyors and cranes
- Requirements for lifting operations:
 - > strong, stable and suitable equipment
 - > positioned and installed correctly
 - > visibly marked with safe working load
 - > lifting operations are planned, supervised and carried out in safe manner by competent persons
 - > special requirements for lifting equipment used for lifting people
- Periodic inspection and examination/testing of lifting equipment.

Element 7: Chemical and biological agents

7.1 Hazardous substances

- Forms of chemical agent: dusts, fibres, fumes, gases, mists, vapours and liquids
- Forms of biological agents: fungi, bacteria and viruses
- Difference between acute and chronic health effects
- Health hazard classifications: acute toxicity; skin corrosion/irritation; serious eye damage/eye irritation; respiratory or skin sensitisation; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single and repeated exposure); aspiration hazard.

7.2 Assessment of health risks

- Routes of entry of hazardous substances into the body
- The body's defence mechanisms (superficial and cellular)
- What needs to be taken into account when assessing health risks
- Sources of information:
 - > product labels
 - > safety data sheets (who must provide them and information that they must contain)
- Limitations of information used when assessing risks to health
- Role and limitations of hazardous substance monitoring.

7.3 Occupational exposure limits

- Purpose of occupational exposure limits
- Long-term and short-term limits
- Why time-weighted averages are used
- Limitations of exposure limits
- Comparison of measurements to recognised standards (EH40: 'Workplace exposure limits').

Element 7: Chemical and biological agents

7.4 Control measures

- The need to prevent exposure or, where this is not reasonably practicable, adequately control it
- Principles of good practice (see Control of Substances Hazardous to Health Regulations, Regulation 7(7) and Schedule 2A, as amended in 2004)
- Common measures used to implement the principles of good practice:
 - > eliminate or substitute (hazardous substances or form of substance)
 - > change process
 - > reduce exposure time
 - > enclose hazards; segregate process and people
 - > use of local exhaust ventilation: general applications and principles of capture and removal of hazardous substances; parts of a basic system and what can make it less effective; requirements for inspection
 - > use and limitations of dilution ventilation
 - > respiratory protective equipment: why and when it should be used and how effective it is; types of equipment and the different substances they are best suited for; selection, use and maintenance
 - > other protective equipment and clothing (gloves, overalls, eye protection)
 - > personal hygiene and protection regimes
 - > health/medical surveillance and biological monitoring
- Additional controls that are needed for substances that can cause cancer, asthma or genetic damage that can be passed from one generation to another.

7.5 Specific agents

- Health risks, controls and likely workplace activities/locations where the following specific agents can be found:
 - > asbestos (excluding removal and disposal)
 - > blood-borne viruses
 - > carbon monoxide
 - > cement

Element 7: Chemical and biological agents

- > *Legionella*
- > *Leptospira*
- > silica
- > wood dust.

Element 8: General workplace issues

8.1 Health, welfare and work environment

- Health and welfare:
 - > supply of drinking water, washing facilities, sanitary conveniences, accommodation for clothing, rest and eating facilities, seating, ventilation, heating and lighting
- The effects of exposure to extremes of temperature; control measures.

8.2 Working at height

- What affects risk from working at height, including vertical distance, fragile roofs, deterioration of materials, unprotected edges, unstable/poorly maintained access equipment, weather and falling materials
- Hierarchy for selecting equipment for working safely at height:
 - > avoid working at height by, for example, using extendable tools to work from ground level; assembly of components/equipment at ground level
 - > prevent a fall from occurring by using an existing workplace that is known to be safe, such as a solid roof with fixed guardrails; use of suitable equipment such as mobile elevating work platforms (MEWPs), scaffolds; work restraint systems
 - > minimise the distance and/or consequence of a fall, by collective measures such as safety nets and airbags installed close to the level of work, and personal protective measures such as fall-arrest systems
- Main precautions necessary to prevent falls and falling materials, including proper planning and supervision of work, avoiding working in adverse weather conditions
- Emergency rescue

Element 8: General workplace issues

	<ul style="list-style-type: none"> • Provision of training, instruction and other measures • General precautions when using common forms of work equipment to prevent falls, including: ladders, stepladders, scaffolds (independent tied and mobile tower), MEWPs, trestles, staging platforms and leading edge protection systems • Prevention of falling materials through safe stacking and storage.
8.3	Safe working in confined spaces <ul style="list-style-type: none"> • Types of confined spaces and why they are dangerous • The main hazards associated with working within a confined space • What should be considered when assessing risks from a confined space • The precautions to be included in a safe system of work for confined spaces • When a permit-to-work for confined spaces would not be required.
8.4	Lone working <ul style="list-style-type: none"> • What a lone worker is and typical examples of lone working • Particular hazards of lone working • Control measures for lone working • What should be considered when assessing risks of lone working.
8.5	Slips and trips <ul style="list-style-type: none"> • Common causes of slips and trips, including: uneven or unsuitable surfaces, trailing cables, obstructions in walkways, unsuitable footwear • Main control measures for slips and trips, including: non-slip surfaces, maintenance, housekeeping.
8.6	Safe movement of people and vehicles in the workplace <ul style="list-style-type: none"> • Hazards to pedestrians: <ul style="list-style-type: none"> > being struck by moving, flying or falling objects > collisions with moving vehicles > striking against fixed or stationary objects • Hazards from workplace transport operations (vehicle movement, non-movement)

Element 8: General workplace issues

	<ul style="list-style-type: none"> Control measures to manage workplace transport: <ul style="list-style-type: none"> > safe site (design and activity) <ul style="list-style-type: none"> - suitability of traffic routes (including site access and egress pedestrian-only zones and crossing points) - spillage control - management of vehicle movements - environmental considerations: visibility/lighting, gradients, changes of level, surface conditions (use of non-slip coatings) - segregating 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 (including speed limits) > safe vehicles <ul style="list-style-type: none"> - suitable vehicles - maintenance/repair of vehicles - visibility from vehicles/reversing aids - driver protection and restraint systems > safe drivers <ul style="list-style-type: none"> - selection and training of drivers - banksman (reversing assistant) - management systems for assuring driver competence, including local codes of practice.
8.7	Work-related driving <ul style="list-style-type: none"> Managing work-related driving: <ul style="list-style-type: none"> > plan <ul style="list-style-type: none"> - assess the risks

Element 8: General workplace issues

- policy
- work-related driving taken account of by top management
- roles and responsibilities
- > do
 - co-operation between departments (where relevant)
 - adequate systems in place, including maintenance strategies
 - communication and consultation with the workforce
 - provision of adequate instruction and training
- > check
 - monitor performance (ensures the policy is working correctly)
 - ensure all workers report work-related road incidents or near misses
- > act
 - review performance and learn from experience
 - regularly update the policy
- Work-related driving control measures:
 - > safe driver (competence – checks on level of skill/experience, validity of driving licence; provision of instruction; fitness to drive)
 - > safe vehicle (vehicles fit for purpose for which they are being used; maintained in a safe condition – checks on MOT/service history; adequate safety devices; maximum load weight not exceeded; adequate restraints for securing goods)
 - > safe journey (planning of routes; realistic work schedule – enough time to complete the journey safely, allowing for driving breaks; consideration of weather conditions; consideration of legal driving hours where relevant)

Element 8: General workplace issues

- Hazards associated with the use of electric and hybrid vehicles:
 - > silent operation/pedestrians not being aware of vehicles manoeuvring
 - > availability and location of charging points
 - > electric shock for high voltage components and cabling
 - > retained electrical charge in components even when the vehicle is switched off
 - > unexpected movement of the vehicle or engine components due to the motor's magnetic forces
 - > potential for the release of explosive gases and harmful liquids from damaged batteries.

Element 9: Work equipment

9.1 General requirements

- Providing suitable equipment, including the requirement for CE marking within the UK and Europe
- Preventing access to dangerous parts of machinery
- When the use and maintenance of equipment with specific risks needs to be restricted
- Providing information, instruction and training about specific risks to people at risk, including users, maintenance staff and managers
- Why equipment should be maintained and maintenance conducted safely
- Emergency operation controls, stability, lighting, markings and warnings, clear workspace.

9.2 Hand-held tools

- General considerations for selecting hand-held tools (whether powered or manual):
 - > requirements for safe use
 - > condition and fitness for use
 - > suitability for purpose
 - > location to be used in (including flammable atmosphere)
- Hazards of a range of hand-held tools (whether powered or manual) and how these hazards are controlled.

Element 9: Work equipment

9.3 Machinery hazards

- Potential consequences as a result of contact with, or exposure to, mechanical or other hazards (see ISO 12100:2010 (Table B.1))
- Hazards of a range of equipment:
 - > manufacturing/maintenance machinery (including bench-top grinder, pedestal drill)
 - > agricultural/horticultural machinery (including cylinder mower, strimmer/brush cutter, chainsaw)
 - > retail machinery (including compactor)
 - > construction machinery (including cement mixer, bench-mounted circular saw)
 - > emerging technologies (including drones, driver-less vehicles).

9.4 Control measures for machinery

- The basic principles of operation, advantages and limitations of the following control methods:
 - > guards: fixed, interlocking and adjustable/self-adjusting
 - > protective devices: two-hand, hold-to-run, sensitive protective equipment (trip devices), emergency stop controls
 - > jigs, holders, push-sticks
 - > information, instruction, training and supervision
 - > personal protective equipment
- Use of the above control methods for the range of equipment listed in 9.3
- Basic requirements for guards and safety devices:
 - > compatibility with process
 - > adequate strength, maintained
 - > allow for maintenance without removal
 - > do not increase risk or restrict view
 - > are not easily bypassed.

Element 10: Fire	
10.1	Fire principles <ul style="list-style-type: none"> • The fire triangle: sources of ignition; fuel and oxygen in a typical workplace; oxidising materials • Classification of fires: A, B, C, D, F and electrical fires • Principles of heat transmission and fire spread: convection, conduction, radiation, direct burning • Common causes and consequences of fires in workplaces.
10.2	Preventing fire and fire spread <ul style="list-style-type: none"> • Control measures to minimise the risk of fire starting in a workplace: <ul style="list-style-type: none"> > eliminate/reduce quantities of flammable and combustible materials used or stored > control ignition sources, including suitable electrical equipment in flammable atmospheres > use good systems of work > good housekeeping • Storage of flammable liquids in workrooms and other locations • Structural measures to prevent the spread of fire and smoke: properties of common building materials (including fire doors); compartmentation; protection of openings and voids.
10.3	Fire alarms and fire-fighting <ul style="list-style-type: none"> • Common fire-detection and alarm systems • Portable fire-fighting equipment: siting, maintenance and training requirements • Extinguishing media: water, foam, dry powder, carbon dioxide; wet chemical; advantages and limitations • Access for fire and rescue services and vehicles.
10.4	Fire evacuation <ul style="list-style-type: none"> • Means of escape: travel distances, stairs, passageways, doors, emergency lighting, exit and directional signs, assembly points • Emergency evacuation procedures • Role and appointment of fire marshals • The purpose of fire drills, including roll call

Element 10: Fire

- Provisions for people with disabilities
- Emergency escape routes to be recorded in building plans.

Element 11: Electricity

11.1 Hazards and risks

- Electric shock and its effects on the body; what affects severity: voltage, frequency, duration, resistance, current path; electrical burns (from direct and indirect contact with an electrical source)
- Common causes of electrical fires, including portable devices overheating during charging
- Workplace electrical equipment, including portable: what is likely to lead to accidents (unsuitable equipment; inadequate maintenance; use of defective/poorly maintained electrical equipment; use of electrical equipment in wet environments)
- Secondary effects, including falls from height
- Work near overhead power lines; contact with underground power cables during excavation work
- Work on mains electricity supplies.

11.2 Control measures

- Protection of conductors
- Strength and capability of equipment
- Advantages and limitations of protective systems: fuses, earthing, isolation of supply, double insulation, residual current devices, reduced and low voltage systems
- Use of competent people
- Use of safe systems of work (no live working unless no other option; isolation; locating buried services; protection against overhead cables)
- Emergency procedures following an electrical incident
- Inspection and maintenance strategies: user checks; formal inspection and tests of the electrical installation and equipment; frequency of inspection and testing; records of inspection and testing; advantages and limitations of portable appliance testing (PAT).