

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

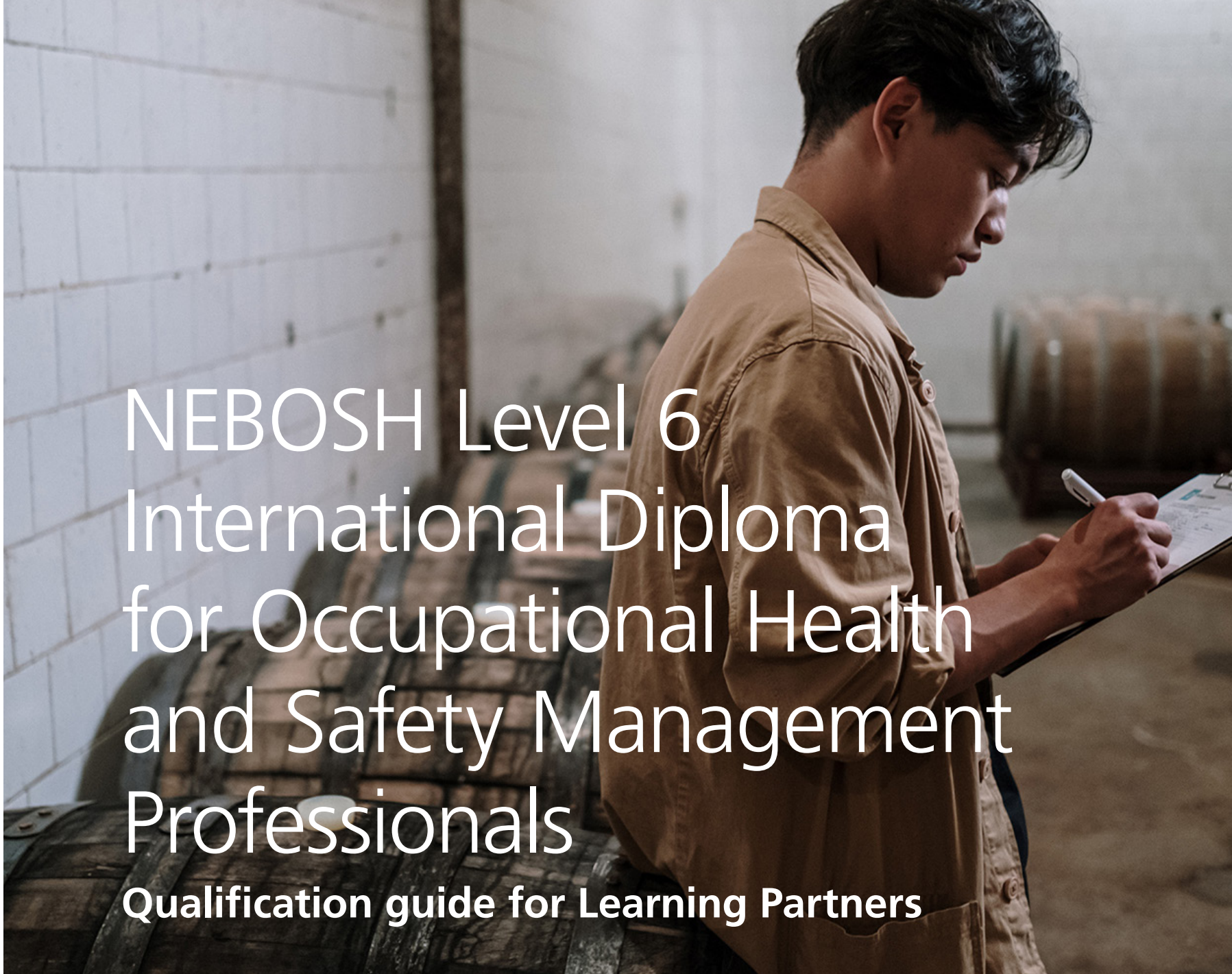
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NEBOSH Level 6 International Diploma for Occupational Health and Safety Management Professionals

Qualification guide for Learning Partners

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Prior learning

Qualification overview

Qualification overview

Qualification key features

Unit prefixes and titles	Unit DI1: Know – workplace health and safety principles (International) Unit DI2: Do – controlling workplace health issues (International) Unit DI3: Do – controlling workplace safety issues (International)		
Assessment	Assessment type Assessment time Pass marks		
Unit DI1	Assignment	40 hours (approx.)	Provisional 50%
Unit DI2	Case study	20 hours (approx.)	Provisional 50%
Unit DI3	Case study	20 hours (approx.)	Provisional 50%
	(see 'Assessment formats' and 'Qualification grading and issue of qualification parchment' for more detail)		
Notional learning hours	Unit DI1: 169 Unit DI2: 125 Unit DI3: 115 (see 'Notional learning hours' for a breakdown of the hours)		
Qualification level and number of credits	RQF Level 6 (RQF qualification number: 610/2230/5) with 42 credits		
Modes of study	A full-time block release course (minimum of six weeks (30 working days)) Part-time day release (spread over at least 30 weeks) Open, distance learning, eLearning		
Entry requirements	No formal entry requirements but due to there being assumed knowledge (see 'Prior learning' section) it is recommended that learners have passed the NEBOSH International General Certificate in Occupational Health and Safety or an equivalent RQF Level 3 or 4 qualification. See 'Entry requirements and recommended minimum standard of English' for further information.		
Recommended minimum standards of English	Learner: International English Language Testing System (IELTS): 7.0 or higher Tutors: International English Language Testing System (IELTS): 8.0 or higher		
Qualification grades	The percentage marks of all three units are combined and the qualification grade is based on the following boundaries: Distinction: 226 or higher Credit: 196 - 225 Pass: 150 - 195		

Qualification summary

Qualification summary

Introduction

The International Diploma is recognised and reliable and approximately 3,000 learners have achieved the qualification since its introduction. The NEBOSH International Diploma is *the* qualification for aspiring health and safety professionals, building directly upon the foundation of knowledge provided by the NEBOSH International General Certificate. It is designed to provide learners with the knowledge and understanding required for undertaking a career as a health and safety professional and it also provides a sound basis for progression to postgraduate study.

The qualification deliberately looks at general workplace issues so that it can be applied in the many different sectors in which health and safety professionals may work. On completion of the qualification, your learners will be able to:

- Understand the role of health and safety legislation, the purpose and principles of enforcement actions and the role of the United Nations' International Labour Organization and other non-governmental bodies.
- Use different types of health and safety leadership approaches and be able to influence health and safety issues at all levels.
- Influence organisational and health and safety workplace culture.
- Proactively manage health and safety, taking account of human failures and factors.
- Manage health and safety competence (both their own and that of the organisation).

- Use a range of hazard identification, risk management and loss causation techniques.
- Monitor health and safety performance.
- Develop their role as a health and safety professional including understanding how it links with Corporate Social Responsibility.
- Effectively manage organisational change.
- Manage contractors and supply chains.
- Control a range of workplace health and wellbeing issues.
- Control a range of workplace safety issues.

Qualification type

NEBOSH offers Vocationally-Related Qualifications (VRQs) in England, Wales and Northern Ireland. In Scotland, VRQs are known as 'Other accredited qualifications'.

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

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

Qualification summary

Syllabus development and review

The syllabus has been developed by NEBOSH following extensive consultation with key stakeholders, notably previous Diploma learners, Learning Partners, subject experts and employers.

NEBOSH would like to take this opportunity to thank all those who participated in the redevelopment and implementation of this qualification but, in particular, the following individuals and employers:

Simon Bown	KeolisAmey Docklands Ltd
David Campbell	Network Rail
Stewart Mardle	BT
Louisa Mead	
Gary Swayne	APS Group
Roger Schulp	BP
Darren Webb	Newsprinters (Broxbourne) Ltd

Simple decisions lead to far-reaching consequences

Vanraj Dave works for global speciality chemical supplier Solenis as an EHS specialist covering the South East Asia and India regions. Vanraj has successfully completed both the NEBOSH International General Certificate and International Diploma in Occupational Health and Safety and these qualifications have helped him build the successful career he enjoys today.



“I always recommend NEBOSH to others now as it gave me the skills and confidence to influence top management and leaders by seeing and presenting the bigger picture whilst having the professional credentials to support my case. Quite a few of my friends have found good positions in the Middle East by following my lead. It was a simple decision for me to start my NEBOSH studies, but when I consider the impact, it has been far reaching.”

Qualification summary

Entry requirements and minimum standards of English for learners

The NEBOSH International Diploma syllabus assumes that learners will have knowledge of health and safety equivalent to that provided by the NEBOSH International General Certificate (IGC).

Many learners embark on the International Diploma already having gained health and safety knowledge either through previous study of an IGC, or a similar qualification. To avoid unnecessary duplication, increase value and provide progression for learners, the May 2023 specification of the International Diploma excludes much of the content that is already adequately covered in the IGC (this is classed as prior learning). The prior learning syllabus content that previously formed part of the International Diploma (November 2015 specification) and also forms part of the IGC (October 2018 and November 2014 specifications) is shown in 'Prior learning' section of this Guide.

Further information on the IGC can be found via our website: <https://www.nebosh.org.uk/qualifications/international-general-certificate/>.

To ensure that learners will have this prior learning, it is strongly recommended that learners achieve the IGC or equivalent qualification prior to undertaking the Diploma course. However, we do not want this to be a barrier so you could also assess prior learning in some other way such as through a diagnostic questionnaire to establish broad topic understanding. The results of this could then inform a recommendation as to whether to proceed directly to Diploma study (albeit with additional support and self-study to fill small knowledge gaps) or whether

to take the IGC first. Either way, you must be satisfied that your learners are ready to undertake the significant demands and commitment inherent in studying the Diploma.

Standard of English required

Your learners must be proficient in their use of written English. This is because the assessments are currently offered (and must be answered) in English only. The standard of English required by learners studying for the NEBOSH International Diploma must be such that they can both understand and articulate the concepts contained in the syllabus. It is important to stress that it is the responsibility of Learning Partners to determine their learners' standards of proficiency in English.

NEBOSH recommends that learners undertaking this qualification should reach a minimum standard of English equivalent to an International English Language Testing System (IELTS) score of 7.0 or higher in order to be accepted onto an International Diploma programme.

Further information on IELTS can be found here: <https://www.ielts.org/what-is-ielts/ielts-introduction>.

Qualification summary

Notional learning hours

The qualification has the following notional learning hours:

Unit	Notional learning hours				Credits
	Taught hours	Self-study hours	Assessment hours	Total hours	
DI1	71	58	40	169	17
DI2	60	45	20	125	13
DI3	54	41	20	115	12
Total	185	144	80	409	42

A programme of study therefore needs to be based around a minimum of **185 taught hours** and approximately **144 hours of self-study** for an overall total of **329 Hours** (excluding assessment time).

A full-time block release course would be expected to last for a minimum of 6 weeks (30 working days and a part-time day release course would be spread over at least 30 weeks. The tuition hours should be added to the recommended self-study hours to give the minimum number of hours for learners studying by open, distance learning or e-Learning.

Tuition time should normally be allocated proportionate to the tuition time for each element but may require adjustment to reflect the needs of a particular learner group.

More
challenging
is more
empowering



Shermin is QHSE Manager for global engineering and technology consultants Bilfinger Tebodin Middle

East. She has completed both the NEBOSH International General Certificate and the NEBOSH International Diploma in Occupational Health and Safety.

Shermin puts her knowledge and expertise to good use, not only in her job but also as a speaker at the major conferences in the area.

"I believe very much in empowerment, not just for the growing number of women here who are now interested in being part of this profession, but for anyone who wants to work in health and safety. I see NEBOSH qualifications as a great equaliser. When you have a NEBOSH qualification people listen, because they trust your knowledge and abilities, which means you can be confident and believe in yourself as well. I often describe health and safety as a selfless profession. I do it first and foremost because I enjoy caring for people."

Qualification summary

Assessment formats

To achieve the International Diploma, learners must complete and pass the following assessments:

Unit	Assessment format
DI1	An assignment split over two papers (both papers must be submitted at the same sitting): Paper 1 – simulation questions Paper 2 – workplace activities, reflective tasks, and a research project
DI2	Case study (simulation only)
DI3	Case study (simulation only)

Your learners will need to ensure that they select a suitable workplace/organisation for DI1, Paper 2. **The workplace/organisation does not have to be their own; it just needs to be suitable.** The selected workplace should provide sufficient scope to carry out a range of activities. If a learner has difficulty finding a suitable workplace, you must help the learner to make arrangements. The workplace activities will be drawn from the following assessment criteria:

Assessment criteria	Topic
2.3	Consultation
2.4	Health and safety culture
3.1	Competence, training, information and supervision
3.2	High reliability organisations
4.2	Sensible risk management/types of risk assessment/ implementing risk assessment actions
4.3	Risk profile only
5.2	Health and safety monitoring and measuring
6.1	Professional skills
7.1	Societal factors
7.3	Organisation change
8.1	General management of contractors

Qualification grading and issue of qualification parchment

Learners must achieve a 'Pass' in all three units to achieve the qualification. The provisional pass mark for each unit is 50%. More information on how provisional marks are set can be found in our FAQs: <https://www.nebosh.org.uk/faqs/how-does-nebosh-set-the-pass-mark-for-each-assessment/>.

The percentage marks of all three units are combined and the qualification grade is based on the boundaries shown in the diagram below.

If a learner has retaken a unit to achieve a higher mark, the highest unit mark will be used to calculate the qualification grade.

Once the third successful unit has been completed, the learner will be issued with a qualification parchment. Parchments are normally issued 20 working days after the results declaration date for the third successful unit.

Individual learner feedback

226+	Distinction
196 - 225	Credit
150 - 195	Pass
0 - 149	Refer

Qualification summary

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/>.

Re-sitting unit(s)

If a learner does not achieve a 'Pass', the learner may re-sit the unit(s) in which they have been unsuccessful providing that this happens within the 5-year enrolment period. However, each re-sit will incur an additional fee.

Learners may re-sit unit(s) at any time within their enrolment period. This includes re-sitting successful unit(s) to try to improve the qualification grade. When all three units have been successfully completed, learners will need to inform NEBOSH of their intention to re-sit the successful unit(s) **within 20-working days of the results declaration date for the final successful unit**. There is no limit to the number of re-sits which can be taken within the enrolment period.

If a learner sits a unit more than once, the highest grade achieved will count towards the final qualification grading.

If a learner registers for any unit of the International Diploma whilst awaiting a result from a previous assessment, the learner cannot then request a refund of the registration fee if the awaited result is a 'Pass' (except in the case of an Enquiry About Result).

Teaching of syllabus content

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. Learning Partners will need to reflect this in the timetables which are submitted for approval as part of the accreditation/re-accreditation process.

Conflict of interest

Learning Partner staff (including Head of Learning Partners, 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.



Qualification summary

Tutor references

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 given. The tutor references are no longer included in the Guide but are available from the 'Qualification's Resources' section on the NEBOSH website.

Minimum standard of English required for tutors

Tutors must have a good standard of English. They must be able to articulate the concepts contained in the syllabus. If the tutor's first language is not English, the Learning Partner must provide evidence of the tutor's standard of English when submitting the 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 8.0 or higher.

Available resources

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

- Tutor references;
- Leaflet;
- Case studies.

"Things turn out the best for the people who make the best of the way things turn out."

- John Wooden



Mansoor Poozhithodi's story perfectly illustrates this sentiment. After working hard at school, Mansoor had secured a place on an engineering degree course and his future seemed assured. But life doesn't always go to plan. Devastatingly, after his father's death, Mansoor had to give up his studies due to financial difficulties.

He did not wallow in his grief and disappointment but worked hard to create a new future for himself. After securing a health and safety role in New Delhi India, he embarked on a new career that gave him the opportunity to make a real difference.

Fast forward two years and Mansoor was appointed to a junior safety adviser position by a company in the United Arab Emirates. Mansoor's aspirations pushed him to follow the NEBOSH route because these qualifications are regarded so highly in the Middle East. Mansoor rediscovered his passion for learning and he went on to pass the NEBOSH International General Certificate in 2008 and a NEBOSH Diploma in 2010.

"NEBOSH qualifications have been the foundation upon which I have built my career and reached the pinnacle of the safety profession. They have helped me secure employment with some of the world's leading companies and most recently helped me achieve fellowship status of IOSH. Things really have turned out for the best for me "

Congratulations Mansoor. We are so proud of everything you have achieved and we know your father would be too!

Syllabus

Syllabus

Learning outcomes

Learning outcome		Taught hours	Recommended self-study hours	Assessment
1	You will be able to advise on the types of legislation likely to apply to your organisation and how enforcement actions could apply; the relevance of the International Labour Organization's conventions/recommendations to the organisation; how non-government bodies and standards could influence health and safety in the organisation.	16	58	Unit DI1 assignment
2	You will be able to promote a positive health and safety culture by: - gaining commitment and participation; and - engaging, supporting, and influencing leaders (and others) to change attitudes and behaviour and make health and safety a priority.	19		
3	You will be able to assess, develop and maintain individual and organisational health and safety competence.	5		
4	You will be able to understand risk management including the techniques for identifying hazards, the different types of risk assessment, considerations when implementing sensible and proportionate additional control measures and developing a risk management strategy.	6		
5	You will be able to develop and implement proactive and reactive health and safety monitoring systems and carry out reviews and auditing of such systems.	12		
6	You will be able to continually develop your own professional skills and ethics to actively influence improvements in health and safety by providing persuasive arguments to workers at all levels.	5		
7	You will be able to develop a health and safety policy strategy within your organisation (including proactive safety, Corporate Social Responsibility and the change management process).	5		
8	You will be able to manage contractors and supply chains to ensure compliance with health and safety standards.	3		
9	You will be able to advise the organisation on a range of common workplace health issues/hazards including how these can be assessed and controlled.	60	45	Unit DI2 case study
10	You will be able to advise the organisation on a range of common workplace safety issues/hazards including how these can be assessed and controlled.	54	41	Unit DI3 case study

Use of the term 'incident'

There are various terms that can be used interchangeably when referring to incidents. This includes accident (generally used when there has been actual harm/ill-health/damage caused) or near miss/close call (generally used when there has been the potential for harm/ill-health/damage to be caused but it did not actually occur in that instance).

NEBOSH has, therefore, adopted the approach taken in the 'Occupational health and safety management systems' (ISO 45001) standard in that an incident is:

An event that happens in the workplace that causes (or has the potential to cause) harm, injury, ill-health or damage.

When the term 'incident' is used in an assessment, the context of the question and other supporting information will provide context for the term. For example, if a question in a scenario-based assessment is asking about the outcome of an incident, information will be provided in the scenario to give context. This could be something like 'the worker fell from a ladder and broke their leg'.

The term 'accident' may still occur in the syllabus if this is a recognised term or part of a title, eg, Reason's model of accident causation etc.

Part 1 – knowledge/thinking/planning

Unit DI1: Know – workplace health and safety principles (International)

Learning outcome 1

You will be able to advise on the types of legislation likely to apply to your organisation and how enforcement actions could apply; the relevance of the International Labour Organization's conventions/recommendations to the organisation; how non-government bodies and standards could influence health and safety in the organisation.

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Assessment criteria	Topic	Ref	Content
Outline how legislation can promote positive health and safety outcomes, 'goal-setting' and 'prescriptive' legislation and possible compensatory mechanisms for loss event where there is a failure of the duty of care	Socio-legal models	1.1	- The role, function and limitations of legislation as a means of promoting positive health and safety outcomes - What are 'goal-setting' and 'prescriptive' legal models; the advantages and disadvantages of each - Legal hierarchy of state and federal laws and their application to health and safety law - Loss events in terms of failures in the duty of care to protect individuals and the compensatory mechanisms that may be available to them: - compensatory schemes that allow individuals to seek restitution for damages ie, no fault liability and fault liability claims - punitive damages – general, special and non-economic damages.
Outline the purpose of enforcement (including the principles of the enforcement policy statement).	Enforcement	1.2	- The purpose of enforcement - The principles of enforcement with reference to the British HSE's <i>Enforcement policy statement</i> (HSE41): - proportionality of enforcement - consistency of approach - transparency.
Explain the role of the International Labour Organization and the status of relevant conventions and recommendations in a global health and safety setting.	The International Labour Organization and its conventions and recommendations	1.3	- The role of the United Nations including: - the role of the International Labour Organization (ILO) and International Labour Conference - status of ILO conventions and recommendations - The roles and responsibilities of 'International governments', 'enterprises' and 'workers' as given in C155 <i>Occupational Safety and Health Convention</i>, 1981 and in the publication R164 <i>Occupational Safety and Health Recommendation</i>, 1981 - How International conventions can be used as a basis for setting International systems of health and safety legislation ie, <i>Occupational Safety and Health Convention and Recommendation</i> (C155 and R164 respectively) and <i>Promotional Framework for Occupational Safety and Health Convention and Recommendation</i>, 2006 (C187 and R197 respectively).

Syllabus

Assessment criteria	Topic	Ref	Content
Summarise the role of non-governmental bodies and self-regulation in securing common health and safety standards in a global economy.	Non-governmental bodies and health and safety standards	1.4	Cross reference with: - assessment criteria 7.1 – societal factors - assessment criteria 7.2 – Corporate Social Responsibility - assessment criteria 8.1 – supply chain management • Examples of relevant influential parties (employer bodies; trade associations; trade unions; professional groups (eg, IOSH, ASSP, Board of Certified Safety Professionals)); pressure groups, public etc, and their role in influencing health and safety performance • The importance of print, broadcast and social media in a global economy and their role in changing attitudes to health and safety • The benefits of schemes which promote co-operation on health and safety between different companies eg, supplier auditing, good neighbour schemes • The possible adverse effects on a business's reputation due to stakeholder reaction to health or safety concerns • An organisation's moral obligations to raise standards of health and safety within their supply chains • The meaning of 'self-regulation' and the role and function of corporate governance in a system of self-regulation • How internal rules and procedures regulate health and safety performance.
Outline how and why third parties must be managed within the workplace.	Third parties	1.5	• Reasons for ensuring that third parties are covered by health and safety management systems • Basic duties owed to and by third parties ie, visitors, agency workers, members of the public, other employers (shared premises) • Responsibilities for control of risk associated with third parties • Reasons for providing information relating to hazards/risks to third parties.
Outline the role of insurers in health and safety.	Insurers	1.6	• How insurers can influence organisational health and safety • The role of loss adjusters and claims handlers.

Syllabus

Learning outcome 2

You will be able to promote a positive health and safety culture by:

- gaining commitment and participation; and
- engaging, supporting, and influencing leaders (and others) to change attitudes and behaviour and make health and safety a priority.

Assessment criteria	Topic	Ref	Content
Recognise different organisational structures and where conflicts in goals could lie and how these conflicts can be resolved.	Organisational structures	2.1	• The concept of the organisation as a system • Organisational structures and functions – including formal and informal; hierarchical vs flat management structures; organisation charts; role of management • Potential conflict between organisational goals and the goals of the individual • The integration of the goals of the organisation with the needs of the individual – authority, responsibility, accountability • The internal influences on health and safety within an organisation eg, finance, production targets, trade unions, organisational goals and culture • The external influences on health and safety within an organisation eg, legislation, enforcement authorities, courts, contracts, clients/contractors, trade unions, insurance companies, public opinion.
Recognise the different types of safety leadership and the behavioural attributes of an effective leader.	Leadership	2.2	<i>Cross reference with assessment criteria 6.1 – the role of the health and safety professional</i> • The meaning of safety leadership • Types of safety leadership, their advantages, disadvantages, typical behaviours and likely impact on safety performance: > transformational > transactional > authentic > resonant • Behavioural attributes of an effective leader.

Syllabus

Assessment criteria	Topic	Ref	Content
Understand how an organisation can consult effectively with its workers.	Consultation	2.3	<i>Cross reference with assessment criteria 6.1 – the role of the health and safety professional</i> • The role of consultation within the workplace with reference to principles laid down in ILO <i>Occupational Safety and Health Convention</i> (C155), Article 20 and ILO <i>Occupational Safety and Health Recommendation</i> (R164) • The four stages to consultation (with reference to <i>Involving your workforce in health and safety</i>, HSG263 produced by the British Health and Safety Executive): > get started: prepare > get organised: plan > get it done: consult and involve > get it right: keep improving • Behavioural aspects associated with consultation – peer group pressures, danger of tokenism, potential areas of conflict • The role of the health and safety professional in the consultative process.
Understand what contributes to an effective health and safety culture and climate and the impact that behavioural change programmes can have on culture.	Health and safety culture Behavioural change programmes	2.4	<i>Cross reference with:</i> - <i>assessment criteria 2.5 – traditional vs proactive safety management models</i> - <i>assessment criteria 7.3 – organisational change</i> • The meaning of 'health and safety culture' and 'health and safety climate'; what is organisational culture; how organisational culture interlinks with health and safety culture • Measuring health and safety culture • Indicators of health and safety culture (ie management commitment and leadership, high/low business profile given to health and safety, provision of information, worker involvement and consultation, training, ownership of health and safety, setting and meeting targets, organisational change, confidence (or lack of) in organisation's objectives and methods, certainty/uncertainty, management decisions regarding commitment (clear communication vs decisions that prejudice mutual trust/lead to confusion) • How these indicators can positively or negatively influence an organisation's health and safety culture • Key principles of culture change (reference to the HSE's Organisational culture: overview - key principles on organisational culture) > Change culture happens over a long period (usually several years) > Start by knowing where you are now - measuring the climate

Syllabus

Assessment criteria	Topic	Ref	Content
		2.4	> As part of the measurement involve all workers (including senior management) > Implement an action plan based on the culture measurement findings > Remeasure the climate during the change period (results can tell you if there is an improvement and what actions are needed and where) • Problems and pitfalls (ie, attempts to change culture too rapidly, adopting too broad an approach, absence of trust in communications, resistance to change) • The elements and levels of the British HSE's <i>Safety culture maturity model</i> with reference to OTO 2000/049 report (This document has been withdrawn since syllabus publication, but has been replaced with updated information available on the Health and Safety Executive's website) • The concepts of blame, no blame and just culture (Dekker) • Behavioural change programmes: > why behavioural change programmes are used > advantages and disadvantages of behavioural change programmes > the features of behavioural change programmes • The organisational conditions needed for success in behavioural change programmes.
Outline the main differences between traditional and proactive safety management models.	Traditional and proactive safety management	2.5	Cross reference with: - assessment criteria 2.4 – health and safety culture - assessment criteria 5.2 – health and safety monitoring • Traditional safety (sometimes called 'Safety I') > focus on the absence of danger and negative outcome KPIs > often reactive > main focus is compliance > people mainly seen as part of the problem/cause > human performance variation – should be avoided wherever possible • The New View approaches and concepts > extension of traditional safety with a different focus

Syllabus

Assessment criteria	Topic	Ref	Content
		2.5	> covers a range of approaches, philosophies and concepts that include common themes: building a restorative just culture; increasing the flow/quality/quantity of information in the organisation; harness/embracing workers skills, knowledge, experience and expertise to understand how successful outcomes are created; improving workplace conditions/ environment by enhancing collaboration; learning/improving instead of blame/punishment; understanding context drives behaviours; setting up workers to succeed; reducing unnecessary bureaucracy; acknowledging working conditions will change; encouraging autonomy and empowerment; decentralising safety; prioritise learning to enable continuous improvement; accepting mistakes will happen. > the four varieties of human work (work as imagined, prescribed, disclosed, done) > Safety II - focus is on how successful outcomes are created under varying conditions. > Safety Differently - Focus on people and empowering workers to manage risk > Human and Organisational Performance (HOP) - 5 key principles of HOP: Human error is normal; blame fixes nothing; learning is vital; context drives behaviour; how you respond to failures matters. > Learning review - investigating positive outcomes - Phase 1: preparation - Phase 2: data collection and analysis - Phase 3: sharing and learning > look at low likelihood but high consequence events: - not a theoretical/desk-based exercise; - includes understand risk profile, field visits, discussions with workers exposed to these risks; - ongoing focus on these risks (ensure control measures are in place and effective); - control measures must be continually reviewed/their effectiveness tested > Human performance variation – useful and unavoidable; to be monitored and managed; encourage sharing > Reasons for variations: resource constraints; change in demand; task complexity; individual skill differences; time pressures; change in normal conditions. > Restorative Just Culture: - characterised by trust, learning and accountability; - builds psychological confidence/safety

Syllabus

Assessment criteria	Topic	Ref	Content
Know how perception of risk can affect health and safety in an organisation.	Risk perception	2.6	<i>Cross reference with assessment criteria 4.2 – managing health and safety risks</i> - Human senses and their reaction to stimuli, sensory defects and basic screening techniques - The process of perception of danger, perceptual set and perceptual distortion - Errors in perception caused by physical stressors - Perception and the assessment of risk, perception and the limitations of human performance, filtering and selectivity as factors for perception.
Understand how human factors and failures are classified, connected and can contribute to incidents and how human reliability in the workplace can be improved.	Human failures and factors Improving human reliability	2.7	<i>Cross reference with assessment criteria 3.1 – competence, training, information and supervision</i> Human failure - The classification of human failure (with reference to HSG48) - The application of cognitive processing: knowledge-based, rule-based and skill-based behaviour (Rasmussen) and the potential for human failure. <i>Cross reference with assessment criteria 7.3 – organisational change</i> Human factors - What are human factors (with reference to HSG48) - Job factors - the role of ergonomics in job design: - the influence of process and equipment design on human reliability - the worker and the workstation as a system - elementary physiology and anthropometry - the degradation of human performance resulting from poorly designed workstations - ergonomically designed control systems in relation to human reliability – ie, examples of applications: production process control panels, crane cab controls, aircraft cockpit, CNC lathe - matching the job to the person: - physical match: design of the workplace and working environment

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Assessment criteria	Topic	Ref	Content
		2.7	» mental match: consider the individual's information and decision making skills and perception of tasks and risks eg, task complexity - the application of task analysis in predicting the probability and prevention of error > Individual factors: - the relationship between physical stressors and human reliability - the effects of under-stimulation, fatigue and stress on human reliability - the effect of personal attitudes (including risk perception), skills, habits and personality on task demands > Organisational failures: - the effects of organisational factors on workplace health and safety - organisational factors that affect human reliability: patterns of employment, payment systems, shift work - the effect of weaknesses in the health and safety management system on the probability of human failure eg, inadequacies in the setting of standards, policy, planning, information responsibilities or monitoring - the influence of formal and informal groups within an organisation - organisational communication mechanisms and their impact on human failure probability eg, shift handover communication, organisational communication routes and their complexity, reliability and degree of formality • Contribution of human failure and human factors to incidents. Improving human reliability • Initiatives for improving individual human reliability in the workplace: > motivation and reinforcement; workplace incentive schemes; job satisfaction and appraisal schemes • selection of individuals – matching skills and aptitudes; training and competence assessment; fitness for work.

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Learning outcome 3

You will be able to assess, develop and maintain individual and organisational health and safety competence.

Assessment criteria	Topic	Ref	Content
Understand how providing information, instruction, training and supervision helps to develop and maintain a competent workforce.	Competence, training, information and supervision	3.1	Cross reference with: - <i>assessment criteria 2.7 – human failures/factors</i> - <i>assessment criteria 4.2 – competence relating to risk assessment programmes</i> - <i>assessment criteria 6.1 – the role of the health and safety professional (in relation to competence)</i> • The meaning of competence • The difference between training and competence • The circumstances when training is likely to be required, including: > induction > changes in work activities > introduction of new technology or new equipment > changes in systems of work > refresher training due to declining skills • The groups of people having specific training needs including supervisors, young and vulnerable people; the need for training to be carried out upwards in the organisation • The relationship between competence and supervision (external and self-supervision) • The circumstances where there are specific training needs for certain hazardous types of work equipment (including self-propelled work equipment, chainsaws, woodworking machines, power presses, abrasive wheels) • The scope of information required for the safe use and operation of work equipment, specifically: the conditions under which the work equipment may be used; foreseeable abnormal situations and the action to be taken; and any conclusions to be drawn from experience in usage • The methods by which information and instructions regarding the operation and use of work equipment can be easily understood by those concerned • The requirements for training lift truck operators (basic, specific job training and familiarisation).

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Assessment criteria	Topic	Ref	Content
Recognise the characteristics of and what can be learnt from High Reliability Organisations (HROs).	High Reliability Organisations	3.2	• What is a HRO? • Characteristics of a HRO: > containment of unexpected events > effective problem anticipation > Just Culture > learning orientation through continuous technical training > mindful leadership • The lessons that other organisations can learn from HROs.

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Learning outcome 4

You will be able to understand risk management including the techniques for identifying hazards, the different types of risk assessment, considerations when implementing sensible and proportionate additional control measures and develop a risk management strategy.

Assessment criteria	Topic	Ref	Content
Recognise and apply different hazard identification techniques.	Hazard identification techniques	4.1	- Types of hazard identification techniques: using observation, task analysis, checklists, and failure tracing techniques such as hazard and operability studies - The importance of worker input.
Explain the principles of implementing and maintaining a sensible risk management programme.	Managing health and safety risks	4.2	Cross reference with: <i>assessment criteria 3.1 – competence, training, information and supervision</i> <i>assessment criteria 2.6 – risk perception</i> <i>assessment criteria 6.1 – the role of the health and safety professional</i> - The meaning of the term sensible risk management including the importance of proportionality when assessing and controlling risk - Principles of and differences between qualitative, semi-quantitative and quantitative assessments - How to engage workers at all levels in the risk assessment process - When dynamic risk assessments/situational awareness should be used - The link between the outcomes of risk assessments and the development of risk controls - Factors affecting the choice of sensible and proportionate control measures: long term/short term, applicability, practicability, cost, proportionality, effectiveness of control, legal requirements and associated standards, the competence of workers and training needs relevant to preferred controls - Organisational arrangements for implementing and maintaining an effective risk assessment programme including: procedures, recording protocols, training, competence, responsibilities, authorisation and follow-up of actions, monitoring and review - Acceptability/tolerability of risk.

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Assessment criteria	Topic	Ref	Content
Outline what should be considered in a risk management strategy for an organisation.	Risk management	4.3	• Organisational risk profiling: its purpose (including to convince top management when there is or is not a problem), practicality and organisational context • Why health and safety risks must be integrated into main business risk • The concepts of avoidance, reduction, transfer and retention with/without knowledge within a health and safety management system, with relevant examples (eg, redesign of tasks, automation of process, insurance policies, use of specialist contractors) • Circumstances when each of the above strategies would be appropriate • Factors to be considered in the selection of an optimum solution based on relevant risk data • The principles and benefits of risk management in a global context.

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Learning outcome 5

You will be able to develop and implement proactive and reactive health and safety monitoring systems and carry out reviews and auditing of such systems.

Assessment criteria	Topic	Ref	Content
Explain different types of loss causation theories/ models, tools and techniques and how loss data can be analysed.	Loss causation Quantitative analysis of data	5.1	Theories/models and use of loss causation techniques - Understand some of the underlying principles connecting causes and outcomes: > incidents with the same cause(s) usually have a range of possible outcomes eg, near misses to injuries to fatalities > there is an underlying randomness to outcomes: - often difficult to predict exactly when or where incidents will happen or their severity - whether severity is minor or major can just be a matter of chance - more severe incidents will happen sooner or later if you just leave it to chance > consideration should be given to: - potential outcomes as well as actual outcomes - tackling root causes to avert far more serious outcomes > cautionary use of incident ratio data studies eg, Bird's Triangle: - still useful in communicating the importance of safety - limitations include: » accuracy in statistics – connection between near misses and serious injury eg, not all incidents are realistically capable of leading to a fatality » consider numbers as guide rather than an absolute (basic shape more important than detail) » does not consider failure of management systems (incidents often seen as being caused by operator fault) » usually look at incidents as a single sequence of events influenced by an intervention (multi-causality theories are ignored) - Understand the following theories/models, tools and techniques: > multi-causality theory (immediate, underlying and root causes) > latent and active failures: Reason's model of accident causation (Swiss Cheese Model) > the principles and application of loss causation analysis tools: 5-Whys, fishbone diagram, fault tree, event tree and the Bowtie model.

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Assessment criteria	Topic	Ref	Content
		5.1	The quantitative analysis of accident and ill-health data - The impacts that statistics can have on an organisation and organisational reputation - Methods of calculating loss rates from raw data: incident frequency rate, incident incidence rate, incident severity rate, ill-health prevalence rate - The limitations of incident and ill-health data eg, importance of representative samples, sampling a population, errors in data.
Outline the purpose of health and safety performance measurement, monitoring and review.	Measuring and monitoring	5.2	The purpose and use of health and safety performance measurement <i>Cross reference with assessment criteria 2.5 – traditional vs proactive safety management models</i> - The meaning of key performance indicators and their role in setting business objectives - The types, benefits and limitations of leading and lagging indicators - The assessment of the effectiveness and appropriateness of health and safety objectives and arrangements, including control measures - Making recommendations based on performance, for the review of current health and safety management systems - The benefits of measuring what goes right (proactive safety management). Health and safety monitoring - The objectives of active monitoring – to check that health and safety plans have been implemented and to monitor compliance with the organisation's systems/procedures and legislative/technical standards - The objectives of reactive monitoring – to analyse data relating to accidents, ill-health and other loss causing events - The distinction between, and applicability of, active/reactive, objective/subjective and qualitative/quantitative performance measures. Health and safety monitoring and measurement techniques <i>Cross reference with:</i> <i>assessment criteria 2.5 – traditional vs proactive safety management models</i> <i>assessment criteria 6.1 – the role of the health and safety professional</i> - Collecting and using sickness absence and ill-health data to develop occupational policy, strategy and targets

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Assessment criteria	Topic	Ref	Content
		5.2	• The role, purpose and key elements of health and safety audits (improvement opportunities), workplace inspections, safety tours, safety sampling, safety surveys, safety conversations and behavioural observations • The in-house health and safety professional's role in audits carried out by external/third parties eg, during a certification audit • Comparison of previous performance data with that of similar organisations/industry sectors and with national performance data • Use and potential benefits of benchmarking. Reviewing health and safety performance <i>Cross reference with assessment criteria 6.1 – the role of the health and safety professional</i> • Need for formal and informal performance reviews • The importance of reviewing positive outcomes (what's gone well) • The review process • The inputs to a review process – internal performance data, health and safety objectives, organisational arrangements and change, external standards and expectations • The outputs from a review process – actions and improvement plans, stakeholder reports, performance targets.

Learning outcome 6

You will be able to continually develop your own professional skills and ethics to actively influence improvements in health and safety by providing persuasive arguments to workers at all levels.

Cross reference with:

- *assessment criteria 2.2 – leadership*
- *assessment criteria 2.3 – consultation*
- *assessment criteria 3.1 – competence*
- *assessment criteria 4.2 – managing health and safety risks*
- *assessment criteria 5.2 – audits*
- *assessment criteria 7.3 – organisational change*

Assessment criteria	Topic	Ref	Content
Describe the role of the health and safety professional, the essential communication and negotiation skills needed and how to use financial justifications to aid decision making.	Professional skills	6.1	The role of the health and safety professional • Why a health and safety professional must understand what can affect their organisation's ability to manage its health and safety responsibilities (the context of the organisation) • The role of the health and safety professional in protecting workers, employers and third parties and the potential conflicts that this brings • The importance of a health and safety professional recognising the limits of their own competence • The need for health and safety professionals to evaluate and develop their own practice to maintain competence • The role of the health and safety professional in mentoring and supporting the development of health and safety competency in other relevant workers • The distinction between leadership and management and how this can apply to a health and safety professional • The role of a health and safety professional in encouraging positive leadership and supporting managers at all levels to exhibit commitment to a safe and healthy workplace • The need to adopt different management styles (which may include problem solving) dependent on any given situation • The role of the health and safety professional in the development, implementation, maintenance and evaluation of health and safety management systems • Why workers' information needs to be handled confidentially • The health and safety professional's role in enabling work activities as part of proportionate and sensible risk management • The contribution of the health and safety professional in achieving the objectives of an organisation

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Assessment criteria	Topic	Ref	Content
		6.1	- Health and safety professional's role in change management: > involved from the start rather than at the end of the process or when things go wrong > how to influence organisational change > use plan-do-check-act to help solve issues - The meaning of the term 'ethics' - The practical application of ethical principles (ie, honesty, respect, integrity, personal conflicts of interest) that underpin health and safety professional codes of conduct. Effective communication and negotiation skills - Why effective communication is important - The need for health and safety professionals to consult and negotiate with others when developing an organisation's health and safety objectives - Influencing ownership of health and safety at all levels of an organisation via: > participation > management accountability > consultation > feedback - The benefits of the health and safety professionals engaging with stakeholders - Ways that the health and safety professional can understand and influence different stakeholder groups - The importance of receiving and acting on feedback on health and safety performance from all stakeholders - The use of different types of communication media available to promote the health and safety message ie, verbal, electronic, printed, pictorial and social - Why an organisation's top management (Chief Executive, Managing Director etc) should be media trained eg, public attention in the event of a major incident. - Procedures for resolving conflict and introducing change - Ensuring roles and responsibilities are clear, understood by all workers and implemented.

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Assessment criteria	Topic	Ref	Content
		6.1	The health and safety professional's use of financial justification to aid decision making • The significance of budgetary responsibility, including profit, loss and payback analysis • Importance of recognising who is the responsible budget holder and how they can be influenced to make appropriate health and safety decisions • Cost-benefit analysis in relation to risk control decisions (organisational, design, planning, operational) • The internal and external sources of information that should be considered when determining costs • The necessity of both short- and long-term budgetary planning when seeking approval for new initiatives, projects and campaigns.

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Learning outcome 7

You will be able to develop a health and safety policy and strategy with your organisation (including proactive safety, Corporate Social Responsibility and the change management process).

Cross reference with:

- *assessment criteria 2.2 – leadership*
- *assessment criteria 9.2 – mental ill-health*

Assessment criteria	Topic	Ref	Content
Outline societal factors that could influence an organisation's health and safety policy and priorities.	Societal factors	7.1	<i>Cross reference with assessment criteria 1.4 – the role of non-governmental bodies and health and safety standards</i> • Economic climate, government policy and initiatives • Industry/business risk profile • Globalisation of business • Migrant workers • National level of sickness absence • Incapacity • Societal expectations of equality eg, adjustments for workers with disabilities.
Outline the four types of Corporate Social Responsibility (CSR) and the benefits it brings to organisations.	Corporate Social Responsibility	7.2	<i>Cross reference with assessment criteria 8.1 – supply chain management</i> • What is CSR ie, socially and environmentally friendly actions not only required by law, but going beyond compliance • The four types of CSR: > philanthropic > environmental protection > organisation diversity > volunteering commitments • The benefits for organisations from CSR.
Outline why and how organisational changes should be effectively managed.	Organisation change	7.3	<i>Cross reference with:</i> - <i>assessment criteria 2.7 – human factors</i> - <i>assessment criteria 6.1 – the role of the health and safety professional</i> • Why organisational change needs to be effectively managed, ie, impacts on safety and health (especially mental health) of workers

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Assessment criteria	Topic	Ref	Content
		7.3	• Use of the Kubler-Ross Change Curve to manage the change process: > shock/denial: share relevant information with the workforce – irrelevant details may cause panic > frustration/anger: expect this behaviour, change managers to remain calm and communicate and/or respond quickly, frequently, clearly and logically with workers > bargaining: be flexible and open to worker suggestions but keep them advised of organisational expectations following change > depression: listen to workers, positive actions to reward those with new roles and responsibilities eg, financial rewards, fun/formative training > experiment: initial engagement with the new situation; develop workers' capabilities/competences > acceptance/decision: reinforce purpose of change, update change strategy based on lessons learned from previous stages • Key principles of managing organisational change: > identify the direct and indirect effects of proposed changes on control of hazards > avoid too many simultaneous changes or unnecessary changes > planning should be thorough, systematic and realistic > risk assessment to consider risk and opportunities resulting from the change and risks from the change process > consultation with workers – before, during and after the change > identify key tasks and responsibilities and ensure they are successfully transferred > training and supervision required for workers in new roles.

Learning outcome 8

You will be able to manage contractors and supply chains to ensure compliance with health and safety standards.

Assessment criteria	Topic	Ref	Content
Outline the principles of managing health and safety in supply chains and the general control of contractors.	Contractors Supply chains	8.1	Cross reference with: - assessment criteria 1.4 – non-governmental bodies and self-regulation - assessment criteria 7.2 – Corporate Social Responsibility • Selection of contractors: > clear definition of roles and responsibilities for the start of contract > the purpose of preferred lists and pre-qualification > organisational procurement process to outline health and safety criteria for the selection of contractors > contractors' capability, consider: evidence of experience in the same type of work; checkable references from previous clients; membership of trade or professional bodies; accident/ill-health statistics; evidence of prosecutions (convictions) and notices; evidence of qualifications for all relevant workers; evidence of skills and ongoing training (especially health and safety training); risk assessments and method statements; evidence of how sub-contractors are selected; recognition of their limitations > demonstration that appropriate resources and equipment are adequate and available for work to proceed > additional requirements when selecting a specialist contractor eg, occupational hygienists: - evidence of relevant competency ie, qualifications, member of a trade or professional body at a relevant level that will include completion of continuing professional development - conformation to relevant code(s) of ethics and/or demonstration of independence, impartiality and integrity - ask contractor to demonstrate why they are competent to do the work - evidence good practice/industry standards are followed > procedures in place for ensuring co-ordination between organisation and contractor of: - information sharing eg, site rules - hazard reporting - control of access to hazardous areas - emergency procedures - safe systems of work (including permits-to-work)

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Assessment criteria	Topic	Ref	Content
		8.1	- assessment of exposure to hazardous substances - sign in/sign out - active monitoring - assessing number of incidents and special arrangements • Managing health and safety within supply chains: > what is a 'focal company': - rule/govern the supply chain - provide direct customer contact - design the product or service offered > the role of a 'focal company' in supply chains eg, drive better health and standards across supply chains by expectation of minimum health and safety standards, communication and training > formal health and safety management systems' role in supply chains: - standards require a minimum standard of compliance - certification of systems demonstrates confidence by a third-party auditor - reduced audit/inspections costs eg, organisations do not have to be audited separately by each of their customers > management of contractors within the supply chain: - suitable communication methods between all parties in the supply chain of relevant information - co-operation between all supply chain parties - suitable training on site health and safety issues before work begins - joint control procedures eg, same procedure for issue of permit-to-work between all contractors, reporting incidents etc - contractor evaluation during and after projects (including managing projects that go wrong) • Why modern slavery must be managed within supply chains • Awareness of where modern slavery may be happening in supply chains.

Part 2 – doing

Unit D12: Do – controlling workplace health issues (International)

Learning outcome 9

You will be able to advise the organisation on a range of common workplace health issues/hazards including how these can be assessed and controlled.

Assessment criteria	Topic	Ref	Content
Understand how to treat disability and sickness fairly in the workplace and the role of an occupational health service.	Occupational health services Equality in the workplace	9.1	The principles and benefits of vocational rehabilitation • The basic principles of the bio-psychosocial model and how it relates to the health of individuals • Why it is important to make 'reasonable adjustments' for workers with physical and mental ill-health • The role and benefits of 'pre-placement' assessment • Managing long-term sickness absence and capability (with reference to guidance NG146 produced by the UK's National Institute for Health and Care Excellence (NICE)) • The meaning of vocational rehabilitation • The benefits of vocational rehabilitation within the context of the worker and the employer • Possible barriers to the effective rehabilitation of workers • What needs to be considered in a risk assessment prior to return to work • Liaison with other disciplines in assessing and managing fitness for work with specific reference to; existing health problems, fitness for work, discrimination • The role of agencies that can support employers and workers. Occupational health services • The roles of typical occupational health specialists: occupational health physician, occupational health nurse, occupational health adviser, occupational health technician • Typical activities offered by an occupational health service: > health promotion > health assessment > advice to management > treatment > calling on specialist help outside of the unit when issues fall outside of the teams' competence eg, ergonomists > medical and health surveillance.

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Assessment criteria	Topic	Ref	Content
Explain how organisations can manage mental ill-health within the workforce, the impacts of wellbeing strategies on mental health, how to recognise when there may be risks to the workforce from violence and the problems associated with lone working.	Mental ill-health Wellbeing Workplace violence Lone working	9.2	Mental ill-health <i>Cross reference with:</i> - <i>assessment criteria 9.3 – health surveillance</i> - <i>assessment criteria 10.12 – workplace transport and work-related driving</i> • Occupational circumstances that could lead to workplace mental ill-health issues ie, lone working, agile working (hot-desking, home working), shift working (especially night shifts), violence, aggression, bullying, harassment and organisation change > understanding the impact on a worker's mental health if they have to work second jobs (including the reasons for this such as personal debt issues) • The impact of chronic pain on a worker's mental health (especially pain from injuries from a workplace accident/health condition) • Depression and anxiety: > differences between them > characteristics > effects on an individual's health and behaviour • The effects of fatigue on mental health • The meaning of work-related stress and its relationship to mental health conditions • The causes of work-related mental ill-health relating to organisation, job and individual: > organisation of work: working hours, long hours, shift work, unpredictable hours, changes in working hours > workplace culture: communication, organisational structure, resources, support > working environment: space, noise, temperature, lighting, etc > job content: workload, time pressures, boredom, etc > job role: clarity, conflict of interests, lack of control, etc > relationships: bullying and harassment, verbal/physical abuse > home-work interface: commuting, childcare issues, relocation, etc • Recognition that common mental health problems found within the workplace are rarely entirely due to work-related factors but are a combination of a number of factors.

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Assessment criteria	Topic	Ref	Content
		9.2	Mental health controls • Why health and safety professionals, occupational health services (where relevant) and the organisation's HR department should work together to manage workers' mental ill-health conditions • Recognition that most people with mental health problems can continue to work effectively and how this can be facilitated/supported by employers • The identification and assessment of work-related mental ill-health at individual and organisational level (eg, discussions, absence data, interviews, surveys, questionnaires) • How workers with mental ill-health conditions can be managed in the workplace: > speaking to workers as soon as it is recognised that there may be an issue > use routine management tools to identify and tackle issues eg, appraisals, scheduled meetings > support for workers who become emotionally distressed at work > support for workers with on-going mental health conditions eg, flexibility in work patterns to suit the worker's needs > encourage workers to develop coping strategies to help manage their condition > use of 'advance statements' > ensure that the worker knows where to get help and support for their mental ill-health condition outside of the workplace • The benefits of good nutrition, exercise and sleep on mental ill-health conditions • The British HSE stress management standards and their role in assessing and managing work related stress (demand, control, support, relationships, role, change).

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Assessment criteria	Topic	Ref	Content
		9.2	Wellbeing • The relationship between wellbeing and mental health • How health and wellbeing workplace strategy can help to improve workers' health (mental and physical): > benefits to the organisation of wellbeing strategies ie, costs of initiatives vs costs of lost working time due to preventable ill-health conditions, absenteeism, presenteeism and worker retention; happier, healthier and more engaged workforces leading to higher productivity > support from top management for initiatives; appointment of board level wellbeing champions > types of wellbeing initiatives that could improve mental ill-health (mental or physical) eg, subsidised gym membership; free fruit; employee assistance programmes; mindfulness/ meditation sessions; free access to medical support such as treatment for mental ill-health conditions, physiotherapy; medical screening; financial education > the role of education and support programmes in promoting wellbeing in the workforce > why wellbeing initiatives need to be relevant to the majority of workers > working with partners to improve health and wellbeing eg, occupational health services (internal or external to the organisation) > involving and empowering all workers eg, appointing workforce wellbeing champions to get involved in wellbeing initiatives, use of health assessments to empower workers to manage their own wellbeing > how monitoring, reviewing and communicating the health and wellbeing strategy can positively influence the workforce • The link between health and wellbeing and safety culture • Why line managers must be trained on wellbeing strategies and initiatives.

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Assessment criteria	Topic	Ref	Content
		9.2	Work-related violence • The meaning of work-related violence (physical/verbal, actual harm and threats) (with reference to section 1.3 of <i>Workplace Violence in Services Sectors and Measures to Combat This Phenomenon</i>, ILO Code of Practice and Section 1.3 of ILO (and others) <i>Framework Guidelines for Addressing Workplace Violence in the Health Sector</i>) • What is harassment (with reference to the International Labour Organization (ILO)'s C190: ILO Violence and Harassment Convention 2019) • The physical and psychological effects • The factors likely to increase the risk of work-related violence > people working with the public > the caring/teaching professions > working with people with mental ill-health conditions > working with or in the vicinity of alcohol/drug impaired people > working alone > home visiting > handling money/valuables > inspection and enforcement duties > retail and licensed trade • Four stages for effectively managing work-related violence. > Stage 1: Find out if there is a problem > Stage 2: Decide what action needs to be taken > Stage 3: Take action > Stage 4: Check that the actions taken are effective or if additional actions are required. Lone working • What is a lone worker? > Someone who works by themselves without close or direct supervision. Source: INDG73/HSE website • How general risk assessments can be used to avoid and control risks to lone workers • The impact on risk to lone workers of: > worker issues: vulnerability, experience and training > violence > mental health issues (including stress/mental health and wellbeing) > worker's medical conditions (suitable for working alone)

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Assessment criteria	Topic	Ref	Content
		9.2	> workplace eg, is it isolated, other people's premises etc > high-risk work activities ie, confined space working that requires supervision > communication where English is not a worker's first language > emergency situations > specific issues relating to home working: minimal supervision, support for when things go wrong, working conditions (set up of a suitable workstation), managing mental health conditions that may arise from feeling isolated, recognition that home working will not suit all workers • Particular problems facing lone workers: medical conditions, training, supervision, emergency procedures, lifting objects that are too heavy for one person, more than one person needed to operate essential controls or transport, mental health issues arising from isolation from the rest of the workforce • Alternatives, precautions (including emergency devices and personal communications) and safe working procedures for lone working.
Understand the requirements for health surveillance.	Health surveillance	9.3	Cross reference with: - assessment criteria 9.2 – mental ill-health - assessment criteria 9.7 – asbestos and lead - assessment criteria 9.11 – noise - assessment criteria 9.12 – vibration - assessment criteria 9.15 – temperatures in moderate and extreme thermal environments - assessment criteria 10.12 – workplace transport and work-related driving • The distinction between general health assessment and health surveillance • The elements of the British HSE's health surveillance cycle (with reference to http://www.hse.gov.uk/health-surveillance/assets/documents/health-surveillance-cycle.pdf) (This guidance has been withdrawn since syllabus publication, but has been replaced with updated information available on the Health and Safety Executive's Health Surveillance website) • Noise health surveillance (ref: Section 9.4 of ILO CoP, <i>Ambient Factors in the Workplace</i>): > the circumstances when it may be required (pre-employment, periodically based on findings of workplace assessments, following complaints etc) > the use of audiometry to measure hearing loss; method, interpretation of audiograms and how the results should be used > the advantages and disadvantages of audiometry programmes, including legal implications • Vibration health surveillance (ref: Section 10.4 of ILO CoP, <i>Ambient Factors in the Workplace</i>) • Keeping health records and medical records confidential

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Assessment criteria	Topic	Ref	Content
		9.3	- Biological monitoring (a specific form of medical surveillance, with reference to Section 4 of ILO CoP <i>Occupational exposure to airborne substances harmful to health</i>): > the role of biological limits > the relative advantages and disadvantages when compared to airborne monitoring - Why health assessments should be offered to shift/night workers > how shift working can be managed with reference to the British HSE's HSG256 > definition of fatigue: a decline in mental and/or physical performance that results from prolonged exertion, sleep loss and/or disruption of the internal clock. Source: HSE website > managing fatigue. <i>Cross reference with assessment criteria 9.2 – mental ill-health</i> - Forms of health surveillance that are a good idea to carry out although there is no legal requirement: > workers with known mental ill-health conditions (especially work-related stress) > workers who will be working at height > driving occupations eg, fork-lift truck drivers > alcohol/substance abuse at work - How to establish and maintain an alcohol/drugs policy and tie in with other relevant policies/ procedures eg, disciplinary procedures - The benefits of pre-employment health screening for alcohol/drugs (especially for high-risk occupations) - When testing for alcohol/drugs should be carried out eg, for high-risk occupations (construction) or jobs where driving is involved - The disadvantages of alcohol/drugs testing.
Understand how hazardous substances can affect the human body.	Hazardous substances	9.4	<i>Cross reference with assessment criteria 9.7 – asbestos and lead</i> - The structure and function of human anatomical systems: respiratory, digestive, circulatory, nervous system and the special sensory organs (skin, eyes and nose) - The concept of target organs and target systems in relation to attack by hazardous substances; local and systemic effects - The body's defensive responses (innate and adaptive) with particular reference to the respiratory system - The distinction between inhalable and respirable dust.

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Assessment criteria	Topic	Ref	Content
Carry out and evaluate an assessment of health risks from hazardous substances, and evaluate the current, and any additional control measures, that may be required.	Health risks from hazardous substances	9.5	• The aims of REACH: > improve the protection of human health and the environment from the risks that be posed by chemicals while enhancing the competitiveness of the EU chemicals industry > promotes alternative methods for the hazard assessment of substances in order to reduce the number of tests on animals > burden of proof placed on companies; they must identify and manage the risks linked to the substances that they manufacture and market > companies must demonstrate how the substance can be used safely > risk management measures must be communicated to users. Source: European Chemicals Agency • The purpose of classification and the role of hazard and precautionary statements for hazardous substances with reference to the <i>Globally Harmonised System of Classification and Labelling of Chemicals</i> (GHS) and the EC Regulation No. 1272/2008 <i>Classification, Labelling and Packaging of Substances and Mixtures</i> (CLP) • Health hazard classes (meaning of terms, with reference to chapter 3 of GHS) – acute toxicity, skin corrosion, skin irritation, serious eye damage, eye irritation, respiratory sensitisation, skin sensitisation, germ cell mutagenicity, carcinogenicity, reproductive toxicity, specific target organ toxicity (single and repeated exposure), aspiration hazard • Information on substances or preparations/mixtures which have the potential to cause harm to be communicated to users: the typical content (format and types of data) of labels; Safety Data Sheets; Chemical Safety Assessments/Reports • What should be considered in the assessment of risks to health from hazardous substances (with reference to Section 4.2 of the ILO's Code of Practice – <i>Ambient Factors in the Workplace</i>) • Review of risk assessment – to take place when there is reason to suspect it is no longer valid or where significant change to the work to which the assessment relates has occurred • The prevention and control of exposure to hazardous substances with reference to chapters 6.4 and 6.5 of ILO CoP, <i>Safety in the Use of Chemicals at Work</i> and chapter 4.3 of ILO CoP <i>Ambient Factors in the Workplace</i>.

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Assessment criteria	Topic	Ref	Content
Understand the role of epidemiology and toxicological testing.	Epidemiology and toxicology	9.6	- Human epidemiological investigations: the role of case control studies and cohort studies (retrospective and prospective) - The role of toxicological testing: vertebrate animal testing, Ames test, Qualitative/Quantitative Structure Activity Relationship (QSAR), 'read across' and grouping - The meaning of dose-response relationship, NOAEL, LD50, LC50.
Summarise how organisations should manage exposure to asbestos and lead in the workplace.	Asbestos and lead	9.7	Cross reference with: <i>assessment criteria 9.3 – health surveillance</i> <i>assessment criteria 9.4 – hazardous substances</i> <i>assessment criteria 10.11 – construction</i> - Identification of types of asbestos - Typical locations where asbestos can be found - The control measures for the specific case of asbestos: ie, preventative methods, design and installation, LEV, personal protection, cleaning of premises and plant, disposal of asbestos waste - Use of specialist contractors for removal and disposal of asbestos; checking the competence of specialist contractors - Additional control measures for working with lead with typical workplace examples - Health surveillance for those workers who regularly undertake work where asbestos or lead are likely to be present.
Describe different types, use and maintenance of ventilation systems and Personal Protective Equipment (PPE).	Ventilation and PPE	9.8	Ventilation - The uses and limitations of dilution ventilation - The purpose of the typical components of an LEV and their function: hood (enclosing, receiving, capturing), ducting, air cleaner/arrestor, air mover (engine/fan), discharge/exhaust - Source strength (area from which the contaminant arises) and capture zones - Thorough examinations of LEV > the need for routine checks > the requirements for examinations/inspections > the competence of those carrying out the testing

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Assessment criteria	Topic	Ref	Content
		9.8	> the frequency of testing > understanding the risks from the system > co-operation between employer and examiner > the sources of information available to the examiner > the equipment required for testing > the three stages to carrying out testing > report on LEV testing > the interpretation of results and implementing recommendations. PPE/RPE • The types of PPE for use with hazardous substances (chemical and biological) • Respiratory protective equipment (RPE): > the types of respirators and breathing apparatus and their applications and limitations > the selection of RPE: - atmosphere/substance-related issues: consideration of likely oxygen deficiency (ie, BA vs respirator); the level of protection required (significance of assigned protection factors); the type of filter required (for respirators) - task and work area related issues: work rate, duration; extremes of temperature and/or humidity; cruciality of clear vision, communications and mobility; space constraints; tools used; presence of explosive atmospheres - wearer-related issues including face-fit testing: fit/comfort/acceptability issues caused by beards, face-marking, spectacles, compatibility with other protective equipment or head coverings; medical conditions ie, allergies to latex - quality-related issues: conformity with relevant standards • Skin and eye protection: > types of skin and eye protection and their applications and limitations > selection: - substance-related issues eg, chemical compatibility, level of protection required - task-related issues eg, duration (breakthrough time); choice between dexterity vs durability; choice of gloves vs gauntlets - wearer-related issues eg, fit/comfort, compatibility, acceptability - quality-related issues: conformity with relevant standards

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Assessment criteria	Topic	Ref	Content
			• The storage and maintenance of PPE • The need for training in the correct use of PPE including the duty to ensure that PPE is worn correctly when needed.
.Recognise when workplace monitoring for hazardous substances is needed	Hazardous substances monitoring	9.9	• The concept of exposure standards • The meaning of Exposure Limits for airborne harmful substances • The significance of short- and long-term exposure limits (STEL, LTEL) and calculation of time-weighted average (TWA) values • International examples of exposure limits (such as Threshold Limit Values (TLVs, Workplace Exposure Limits (WELs); Permissible Exposure Limits (PELs)) • Monitoring > when it is required/what should be monitored > selecting the right people to take part in personal monitoring/sampling > the health and safety professional's role in specifying the type of monitoring required > the role of the occupational hygienist > type of equipment for substance monitoring ie, solids vs vapours/gases > monitoring strategy (with reference to HSG173) • Interpreting a hygienist's report, ensuring the strategy and methods are suitable and that results are valid, reliable, representative and correctly evaluated relative to any exposure standards.
Outline where biological agents are likely to be encountered in the workplace and how these can be controlled	Biological agents	9.10	• The main types of biological agent (fungi, bacteria, viruses, protozoa) and sources (human, animal, plants and environmental); with examples in each case • The special properties of biological agents (rapid mutation, incubation period, infectious, rapid multiplication) • The special properties of Zoonotic/Vector-borne diseases • Additional control measures that <i>may</i> be required for <i>incidental</i> exposure to biological agents eg, working with animals, infectious people, handling waste material contaminated with micro-organisms, working in sewers: > avoid exposure wherever possible eg, use of remote cameras for sewer work > appropriate training for relevant workers > implement suitable disinfection procedures > arrangements for safe collection, storage, transport and disposal of contaminated waste > vaccinations for known biological agents that could cause zoonotic diseases

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Assessment criteria	Topic	Ref	Content
		9.10	> hygiene measures to prevent or reduce the accidental transfer of a biological agent including: - provision of appropriate and adequate washing and toilet facilities - prohibition of eating, drinking, smoking and application of cosmetics in areas where biological agents are likely to be present > use of appropriate PPE
Recognise, assess and control noise risks in the workplace.	Noise	9.11	<i>Cross reference with assessment criteria 9.3 – health surveillance</i> • The basic concepts of sound pressure, sound intensity, frequency, the decibel scale – dB(A) and dB(C), equivalent noise dose (L_{Aeq} L_{EPd} weekly and peak) • The physical and psychological effects on the individual; types of hearing loss with reference to their significance in the workplace, the acute and chronic physiological effects of exposure to high noise levels (ie, noise induced hearing loss, instantaneous hearing loss, temporary threshold shift, permanent threshold shift, Tinnitus) • Noise risk assessment and planning for control (with reference to the British HSE's L108: <i>Controlling noise at work</i>) • The use of noise calculators to determine mixed exposures (reference to the British HSE's online calculator) • The hierarchy of noise control: > eliminate/control at source (substitution, damping, workplace layout (eg, relocation of all noisy equipment), re-design of equipment/task, maintenance, purchasing policy) > control along transmission path: - the behaviour of sound at interfaces – transmission, reflection, absorption - sound reduction indices and absorption coefficients and their use in materials selection - techniques of damping, isolation, diffusion, barriers, acoustic enclosures, distance - active noise cancellation > control exposure at the receiver: acoustic havens, hearing protection zones, hearing protection (types and selection based on SNR and HML methods and problems of over protection), limiting exposure time, role of health surveillance (audiometry – <i>cross reference with assessment criteria 9.3 – health surveillance</i>); the advantages and disadvantages of wearable technologies.

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Assessment criteria	Topic	Ref	Content
Recognise, assess and control vibration risks in the workplace.	Vibration	9.12	Cross reference with assessment criteria 9.3 – health surveillance - The basic concepts of displacement, velocity, amplitude, frequency, acceleration and vibration dose A(8) - Whole-body vibration (WBV) > groups of workers at risk > physiological and ill-health effects from exposure to WBV - Hand-arm vibration (HAV) > groups of workers at risk > physiological and ill-health effects from exposure to HAV > aggravating factors eg, low temperatures, smoking > use of the Stockholm scale to indicate severity - The use of vibration calculators to determine mixed exposures - Vibration risk assessment and planning for control (with reference to the British HSE's L140: <i>Hand-arm vibration</i> and L141: <i>Whole-body vibration</i>) - Practical control measures to prevent or minimise exposure with reference to section 10.3 of ILO CoP, <i>Ambient Factors in the Workplace</i>; the advantages and disadvantages of wearable technologies.
Recognise different radiation risks in the workplace and how they are controlled.	Radiation	9.13	- The distinction between ionising and non-ionising radiation - The electromagnetic spectrum: > Gamma ray, X-ray, optical (ie, ultraviolet (UV), visible, infra-red (IR)) and radiofrequency (ie, microwaves, radio waves) with examples of origins and sources (occupational and natural) > electromagnetic (EM) wave properties – wavelength, frequency, energy - Particulate radiation properties (alpha, beta, neutrons), with examples of origins and sources (occupational and natural). Non-ionising radiation - Sources of non-ionising radiation: > workplace examples: leisure industry, manufacturing, healthcare, research, telecommunications systems > naturally occurring (sunlight): indoor/outdoor work > laser sources in workplaces: entertainment, retail, manufacturing, healthcare, research - The routes and effects of exposure, both acute and chronic: > damage to eyes: early onset of cataract risk, photokeratitis and photo-conjunctivitis (arc eye), photochemical damage to the retina (blue light hazard), damage to the eyes from laser beams/Intense Pulsed Light (IPL) including blindness > damage to skin from non-ionising radiation including lasers: reddening of the skin (erythema), burns, skin cancer

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Assessment criteria	Topic	Ref	Content
		9.13	• Radiation risk assessment to consider: > sources of non-ionising radiation > the comparison of measured exposure levels with exposure limits and values (where applicable) > the potential for misuse or misunderstanding of safety precautions • The control measures to prevent or minimise exposure to non-ionising radiation both generated in workplaces and naturally occurring including: > design > siting > direction control > reduction of stray fields/beams > screening > enclosures > distance > safe systems of work > instructions > training > personal protective equipment. Ionising radiation • Sources of ionising radiation: > workplace examples: manufacturing, healthcare, research, power generation > naturally occurring: radon • The routes and effects of exposure to each type of ionising radiation (alpha, beta, gamma, x-rays, neutrons): > somatic (early/acute, late/chronic) > genetic • What matters should be considered when carrying out an ionising radiation risk assessment (reference to the ILO <i>Ambient Factors in the Workplace</i> – Section 5.2) • Practical measures to prevent or minimise exposure to: > external ionising radiation (shielding, distance, time) > internal ionising radiation (preventing inhalation, ingestion, entry through the skin including contaminated wounds and absorption through the skin).

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Assessment criteria	Topic	Ref	Content
Explain the different types of musculoskeletal issues and what an organisation must do to assess and control risks from repetitive physical activities, manual handling and poor posture.	Musculoskeletal issues Manual handling	9.14	• Basic understanding of the human musculoskeletal system, including bones, tendons, ligaments, nerves and muscles • The types of injury and ill-health conditions resulting from repetitive physical activities, manual handling and poor posture, including: work-related upper limb disorders (WRULDs), musculoskeletal injury and discomfort, back pain, eye and eyesight effects, fatigue, stress, sprains/strains, fractures, lacerations • The types of ill-health conditions resulting from sitting for long periods and how these can be controlled/managed • The principles of ergonomic design as applied to the control of musculoskeletal risks • When a manual handling risk assessment is required (with reference to the British HSE's publication <i>Manual handling</i>, guidance on regulations, L23) • How the simple filters (from L23) can be used to decide if a manual handling risk assessment is required: > lifting and lowering > carrying for up to 10m > pushing and pulling for up to 20m > handling while seated • Consideration of: task, load, force, working environment, equipment, individual capability when assessing risks associated with repetitive physical activities, manual handling and poor posture • How to decide if a more detailed assessment should be used (with reference to the Appendix of L23, paragraph 7) • The circumstances when the following assessment tools should be used: > HSE Manual Handling Assessment Tool (MAC) > HSE Assessment tool for repetitive tasks of the upper limbs (ART) > HSE Variable Manual Handling Assessment chart (V-MAC) • How Appendix 5 of the British HSE's L26 should be used to help to control the risks from repetitive DSE work (including smart phones and tablets) • Practical control measures to avoid or minimise the risk associated with repetitive physical activities, manual handling and poor posture including: > elimination > automation > alternative work methods/job design

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Assessment criteria	Topic	Ref	Content
			> ergonomic design of tools/equipment/workstations and workplaces > job rotation (fatigue management – <i>links with assessment criteria 9.2 – mental ill-health</i>) > work routine > eye and eyesight testing > training and information > efficient movement principles > personal considerations > wearable technologies (provides continuous data).
Outline why and how suitable working temperatures for all types of work should be maintained and what welfare arrangements organisations need to provide for all workers.	Workplace temperature Welfare arrangements	9.15	Temperature in moderate and extreme thermal environments <i>Cross reference with assessment criteria 9.3 – health surveillance</i> • The importance of maintaining heat balance in the body • The effects of working in high and low temperatures and humidity • The meaning of thermal comfort and the need, as far as possible, to provide a reasonable working temperature • Parameters affecting thermal comfort: environmental (air and radiant temperature, relative humidity, air velocity), metabolic rate, clothing, sweat rate, duration of exposure • The purpose of the heat stress index WBGT • The practical control measures to minimise the risks when working in extreme thermal environments: > control heat/cold source > control other environmental parameters > separation > workplace design > job design including job rotation > providing hot/cold drinks > clothing/PPE > health surveillance/monitoring workers' health who are regularly exposed to thermal stress > training. Welfare • Why it's important to provide welfare facilities (including suitable lighting levels) in fixed and temporary workplaces • Facilities for pregnant women and nursing mothers, together with the practical arrangements.

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Unit D13: Do – controlling workplace safety issues (International)

Learning outcome 10

You will be able to advise the organisation on a range of common workplace safety issues/hazards including how these can be assessed and controlled.

Assessment criteria	Topic	Ref	Content
Outline the practical considerations for maintaining a safe working environment.	Safe working environment	10.1	• Practical considerations in providing and maintaining safe places of work and safe means of access and egress; using safety signs ie, types of safety signs and the typical areas where they would be used • The impact of lighting levels on safety issues: incorrect perception; failure to see clearly; stroboscopic effects; colour assessment; effect on attitudes; effects on health (including visual fatigue) • Why different work areas will need different light conditions.
Recognise risks and design safe working practices in confined spaces.	Confined spaces	10.2	• The meaning of confined spaces • Examples of where confined space entry may occur in the workplace eg, pits in garages, trunking ducts, watercourses, trenches, tanks, silos, sewers • The factors to be considered when assessing risk: access arrangements; likely atmospheres to be encountered (including oxygen enriched, oxygen depleted, toxic and flammable); the task, materials and equipment; people at risk; reliability of safeguards (including personal protective equipment) • The factors to be considered in designing safe working practices: operating procedures and emergency policy/procedures; and training for work in confined spaces.
Describe the mechanisms for fire and explosions, how building materials behave in a fire and methods that can be used for prevention and protection from fire and explosion.	Fire and explosion	10.3	Flammable and explosive materials and the mechanisms by which they ignite • The relevant properties of solids, liquids and gases with respect to influence on combustion • The meaning of: flash point, fire point, auto-ignition temperature, vapour density, limits of flammability; with examples of the importance of these properties in relation to the initiation and propagation of fire and explosion • The causes and effects of: > unconfined vapour cloud explosion > boiling liquid expanding vapour explosion (BLEVE) > confined vapour cloud explosion • Mechanisms of explosions and mechanisms of fire-spread including: > how an explosion/fire occurs

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Assessment criteria	Topic	Ref	Content
		10.3	> the stages of combustion: induction, ignition, growth, steady state and decay > mechanisms of unconfined vapour cloud explosions, confined vapour cloud explosions and boiling liquid expanding vapour explosions • The effects of atomisation/particle size and oxygen content on the likelihood and severity of fire/explosion • How failure of control measures coupled with the physico-chemical properties of flammable materials can bring about an explosion • The process of oxidisation and the effects of oxidising substances on fire and explosion mechanisms • Flammable atmospheres; how they arise and where they are found • Control measures for entering flammable atmospheres, including purging, to keep flammable atmospheres below Lower Explosion Limits (LEL) • The principles of selection of electrical equipment for use in flammable/explosive atmospheres (<i>cross reference with assessment criteria 10.7 – work equipment</i>) • The prevention and mitigation of vapour phase explosions; structural protection, plant design and process control, segregation and storage of materials, hazardous places zoning, inerting, explosion relief • Control of amount of material, prevention of release, control of ignition sources, sensing of vapour between Lower Explosive Limit (LEL) and Upper Explosive Limit (UEL) • Dust explosions: > the mechanisms of dust explosions including the importance of combustible solid particle size, dispersal, explosive concentrations, ignition, energy, temperature and humidity > the dust pentagon > primary and secondary explosions > the prevention and mitigation of dust explosions including relevant hazardous places zoning. The behaviour of structural materials, buildings and building contents in a fire • The behaviour of building structures and materials in fire: fire properties of common building materials and structural elements (eg, steel, concrete, wood); level of fire resistance • The behaviour of common building contents in fire (eg, paper-based, fabrics, plastics).

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Assessment criteria	Topic	Ref	Content
		10.3	Fire and explosion prevention and protection • Structural protection (eg, openings and voids, compartmentation, fire-stopping) • The key features of plant design and process control • The segregation and storage of flammable, combustible and incompatible materials • Hazardous area zoning, exclusion of ignition sources • Inerting • Methods of explosion relief: venting, explosion panels, bursting discs, suppression.
Summarise the considerations for fire risk assessment, methods for fire prevention and detection, types of firefighting equipment, means of escape and emergency evacuation procedures.	Fire	10.4	Fire risk assessment • The five steps to fire risk assessment (with reference to British Home Office guidance <i>Fire safety risk assessment: 5-step checklist</i>: > identify fire hazards > identify people at risk; including vulnerable people > evaluate, remove, reduce the risk > record, plan, and train > review. Fire detection and alarm systems • Common fire detection and alarm systems and procedures: > factors in design and application of fire detection and alarm systems > the principal components of alarm systems; detection and signalling > manual and automatic systems. Fixed and portable fire-fighting equipment • Factors in design and application of fixed fire-fighting systems and equipment: > classification of fires > portable fire-fighting equipment > extinguishing media and mode of action > siting, maintenance and training requirements > environment, including fire water runoff.

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Assessment criteria	Topic	Ref	Content
		10.4	Means of escape - The factors to be considered in the provision and maintenance of a means of escape - Maintaining fire safety in communal areas. Emergency evacuation procedures - Personal Emergency Evacuation Plans (PEEPs).
Describe the risks and controls inherent in industrial chemical processes and hazardous environments, including the storage, handling and transport of dangerous substances and planning for emergencies.	Dangerous substances	10.5	Industrial chemical processes - The effects of temperature, pressure and catalysts on rates of chemical reactions - Heat of reaction in terms of exothermic and runaway reactions - Examples of exothermic reaction (ie, combustion); example of runaway reaction (ie, Bhopal, 1984) - Methods of controlling exothermic and runaway reactions. The storage, handling and transport of dangerous substances - The storage methods and quantities – bulk storage, intermediate storage, drum storage, specific locations - The storage of incompatible materials and their segregation requirements - Leakage and spillage containment – bunding, problems encountered during filling and transfer - The storage and handling of dangerous substances: - flow through pipelines - the principles of filling and emptying containers - the principles of dispensing, spraying and disposal of flammable liquids - the dangers of electricity in hazardous areas - The transport of dangerous substances: - key safety principles in loading and unloading of tankers and tank containers - labelling of vehicles and packaging of substances - the importance of driver training programmes.

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Assessment criteria	Topic	Ref	Content
		10.5	Hazardous environments • The principles of: resistance to mechanical damage, protection against solid objects and dusts, protection against liquids and gases • Wet environments – including corrosion and degradation of installation and damage to electrical equipment • The classification of hazardous areas, zoning • The use of permits-to-work • The principles of pressurisation and purging • Intrinsically safe equipment, flameproof equipment, type 'N' equipment, type 'e' equipment (cross reference with assessment criteria 10.7 – work equipment). Emergency planning • The need for emergency preparedness within an organisation with reference to ILO Convention C174 <i>Prevention of Major Industrial Accidents</i> (1993) and the ILO Code on the <i>Prevention of Major Industrial Accidents</i> (1991) • Consequence minimisation via emergency procedures eg, first-aid/medical, fire evacuation, spill containment • Development and maintenance of emergency plans: > content of both on-site and off-site plans, for major emergency scenarios to meet local legislation and/or other standards > reduce the impact on the organisation, including post-incident recovery > the need for on-going monitoring and maintenance of emergency plans • The role of external emergency services and local authorities in emergency planning and control.
Summarise what needs to be considered during maintenance, inspection and testing of work equipment and machinery.	Work equipment and machinery maintenance	10.6	Cross reference with: - assessment criteria 10.7 – work equipment - assessment criteria 10.8 – machinery - assessment criteria 10.10 – portable electrical equipment • The hazards and control measures associated with the maintenance of work equipment and machinery

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Assessment criteria	Topic	Ref	Content
		10.6	• The three maintenance management strategies of: planned preventive; condition-based; and breakdown • The factors to be considered in developing a planned maintenance programme • The factors to be considered in determining inspection regimes having consideration of the type of equipment; where it is used; and how it is used; method of inspection (including use of new technologies such as drones) • The need for functional testing of safety-related parts, including interlocks, protection devices, controls and emergency controls • The means by which machinery is safely set, cleaned and maintained including: safe systems of work; permits; isolation; procedures for working at unguarded machinery • The means by which machines are isolated from all energy sources • The typical causes of failures – excessive stress, abnormal external loading, metal fatigue, ductile failure, brittle fracture, buckling and corrosive failure • The advantages and disadvantages of non-destructive testing.
Understand why and how risks from work equipment and pressure systems should be managed.	Work equipment	10.7	Work equipment <i>Cross reference with:</i> - <i>assessment criteria 10.3 – flammable and explosive materials</i> - <i>assessment criteria 10.6 – maintenance, inspection and testing</i> - <i>assessment criteria 10.10 – portable electrical equipment</i> • Why risk assessments must be carried out on work equipment • The means by which all forms of energy used or produced, and all substances used or produced can be supplied and/or removed in a safe manner • Ergonomic, anthropometric and human reliability considerations in use of work equipment including: the layout and operation of controls and emergency controls; and reducing the need for access (automation, remote systems) • The importance of size of openings; height of barriers; and distance from danger • The risks associated with using work equipment which arise from its initial integrity, the location where it will be used, and the purpose for which it will be used and decommissioning/end of life • The risks associated with using work equipment which arise from its: incorrect installation or re-installation; deterioration; exceptional circumstances which could affect the safe operation of work equipment; maintenance, inspection and testing

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Assessment criteria	Topic	Ref	Content
		10.7	- The risk control hierarchy relating to work equipment: eliminating the risks; taking 'hardware' (physical) measures (such as providing guards); taking appropriate 'software' measures (such as following safe systems of work and providing information, instruction and training – training to be based on the level of risk associated with the equipment). Pressure systems - Definition of a pressure system - Types of inspection, frequencies and the statutory basis for examination of pressure systems - Prevention and testing strategies: design and construction, repair and modification, information and marking, safe operating limits, written scheme of examination, maintenance and record keeping, competent people.
Explain the principles of machinery safety integration and risk assessment and generic hazards and controls for machinery.	Machinery	10.8	Safety integration and machinery risk assessment <i>Cross reference with assessment criteria 10.6 – maintenance, inspection and testing</i> - Definition of machinery - The role and application of standards relating to machinery: > C119 <i>Guarding of Machinery Convention</i>, 1963 and International Standards EN ISO 12100 and ISO/TR 14121 - The principles of safety integration: > machinery must be designed and constructed to be fit for purpose and to eliminate or reduce risks throughout the lifetime of the machinery including the phases of transport, assembly, dismantling, disabling and scrapping > the principles must be applied in order to eliminate or reduce risks as far as possible; take necessary protective measures where risk cannot be eliminated; and inform users of any residual risks > when designing and constructing machinery and when drafting the instructions: the use and foreseeable misuse must be considered > take account of operator constraints due to necessary or foreseeable use of personal protective equipment

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Assessment criteria	Topic	Ref	Content
		10.8	> machinery must be supplied with all the essentials to enable it to be adjusted, maintained and used safely • The factors to be considered when assessing risk: people at risk (use of anthropometrics), severity of possible injury, probability of injury, need for access, duration of exposure, reliability of safeguards, operating procedures and workers • Conformity assessments, the use of harmonised standards, essential health and safety requirements, the technical file and the declaration of conformity. Generic hazards • Common machinery hazards in a range of general workplaces: drills (radial arm, pedestal), circular saws, guillotines, disc sanders, abrasive wheels, lathes, mechanical and hydraulic presses, portable power tools, CNC machines, robotics, 3D printing, automatic doors/gates (including high speed doors and roller shutter doors) • The hazards, advantages and disadvantages associated with artificial intelligence (including wearable technologies) in the workplace. Machinery control systems • The key safety characteristics of machinery control systems to include: > making allowance for the failures, faults and constraints to be expected in the planned circumstances of use; do not create any increased risk to health or safety; faults or damage to the control system or the loss of energy supply must not result in additional risk to health or safety; do not impede the operation of any stop/energy stop controls > the control measures for starting or making a significant change in operating conditions including any change in speed, pressure or other operating condition > stop controls readily accessible and leads to a safe condition > emergency stop controls provided and to be readily accessible > the position and marking of controls to be visible and identifiable > the consideration of ergonomic principles.

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Assessment criteria	Topic	Ref	Content
Outline the hazards and controls for mobile work equipment and lifting equipment.	Mobile work equipment Lifting equipment	10.9	Mobile work equipment • The applications of different types of mobile work equipment (self-propelled, towed, attached, pedestrian-controlled and remote-controlled), to include: lift trucks (counterbalance, reach, rough terrain, telescopic materials handlers, side loading trucks, pedestrian controlled trucks), agricultural tractors and works vehicles • The hazards associated with mobile work equipment: rollover, overturning, suitability for carrying passengers, unauthorised start-up, safe operating station/platform, excessive speed, failure to stop, contact with wheels and tracks, falls of objects, moving parts/drive shafts/power take-offs, overheating, refuelling or charging (electrical, LPG, diesel) • The control measures to be used for mobile work equipment, including safe layout of areas where mobile equipment is used, the protection of pedestrians and use of lifting plans • Using lift trucks to move people – conditions and equipment necessary, other attachments used on lift trucks • The importance of roll-over protection, falling objects protection, speed control systems (stopping and emergency braking), guards, barriers and restraining systems, means of fire-fighting, vision aids (plane, angled and curved mirrors, Fresnel lenses, radar, CCTV). Lifting equipment • The applications and types of lifting equipment including cranes (mobile cranes, tower cranes, overhead cranes, telescopic handlers) and hoists • The hazards associated with cranes and lifting operations • The main hazards associated with using hoists (gin wheel, construction site platform hoist) and lifts (passenger and goods, scissor, vehicle inspection, MEWPs) • The control measures when using: cranes (selection, siting, and stability of cranes); hoists and lifts; integrity of lifting equipment; competence of workers; maintenance and inspection; statutory examinations; emergency arrangements.

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Assessment criteria	Topic	Ref	Content
Identify the hazards and outline control measures associated with electricity (including work on high voltage systems) and risks associated with portable electrical equipment.	Electricity	10.10	Hazards of electricity and static electricity • Electric arcs: molten metal splash and radiation • Circumstances giving rise to the generation of static electricity • Hazards and controls for static electricity. Control measures for the use of electrical equipment and working on electrical systems • The selection and suitability of equipment (including the strength and capability of electrical equipment) • Reducing the risk of shock by using protective systems: fuses, reduced voltage systems, cutting of supply/isolation, residual current devices, double insulation, earth free zones • Insulation, protection and placing of conductors • Working space, access and lighting • Inspection and maintenance strategy: user checks, formal visual inspections, combined inspection and tests, records of maintenance and tests, frequency of inspection and testing, use of competent workers to carry out inspections • Safe systems of work on installations made dead • When permits-to-work should be used • Safe systems of work and criteria of acceptability for live working. High voltage systems • Common high voltage systems and the prevention of danger • Safe systems of work, permit-to-work procedures • Additional precautions needed for high voltage working (with reference to the British HSE's document <i>Electricity at work, safe working practices</i>, HSG85) and working near overhead lines (with reference to the British HSE's document <i>Avoiding danger from overhead power lines</i>, GS6). Portable electrical equipment <i>Cross reference with assessment criteria 10.7 – work equipment</i> • Why portable electrical equipment could be more of a risk than static equipment • Electrical risks from portable appliances eg, portable generators, arc/mig/tig welding • Issues relating to the aspects of supply to portable electrical equipment eg, height of cables, siting of RCDs.

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Assessment criteria	Topic	Ref	Content
Describe the different types of construction activities and outline how people can be protected during construction works, safe work at height practices, and the hazards and controls for demolition and excavation work.	Construction Work at height Demolition Excavation	10.11	What is construction <i>Cross reference with assessment criteria 6.1 – role of the health and safety professional</i> • The health and safety professional's role in construction projects eg, promotion of a positive health and safety culture eg, by trying to prevent damages, injuries and ill-health or carrying out thorough investigations when incidents happen • Types of work: building works; renovation; alteration; maintenance of existing premises (occupied or unoccupied); civil engineering; works of engineering construction; and demolition • The range of activities including: site clearance; demolition; dismantling; excavation; loading, unloading and storage of materials; site movements; fabrication; decoration; cleaning; installation; removal and maintenance of services (electricity, water, gas); landscaping • Particular construction issues relating to the: transitory nature of workers; temporary nature of construction activities and the constantly changing workplace; fire arrangements; time pressures from clients; weather conditions; levels of numeracy and literacy of workers; workers who do not speak the native language. General health and safety duties for construction projects • The relevance of site layout; access and egress; protection of the public • The use of method statements and permits-to-work • General duty for: > cooperation and communication between all parties on site > reporting unsafe work to the person in control of the project > provide comprehensible information and instruction to relevant parties when required. Protecting workers and others before and during construction work • The application of design risk management at design phase and how residual risk should be handled • Site security (perimeter fencing, signs, safe viewing points, means of securing plant/chemicals, means of controlling dangers such as mud on public highways) • Arrangements (including site rules, cooperation, shared facilities, first-aid and welfare facilities) • Arrangements for site inductions.

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Assessment criteria	Topic	Ref	Content
		10.11	Work at height • The hazards associated with working at height • The types and use of different types of access and work at height equipment including: self-propelled, trailer and truck-mounted hydraulic lifts (MEWPs), booms, scissor lifts, loaders and mobile work platforms • The hazards arising from lack of mechanical strength of carriers or lack of loading control and control devices; hazards to people on or in carriers (movements of the carrier, people falling from the carrier, objects falling from the carrier); exceeding safe working load/people permitted • The appropriate control measures for use of access and work at height equipment: space and strength corresponding to the maximum number of people and maximum working load; fitted with a suspension or supporting system; controlled by people in the carrier; emergency stop devices; hold-to-run controls; preventing tilting if there is a risk of the occupants falling; trapdoors open in a direction that eliminates any risk of falling; protective roof if risk of falling objects endanger people; marked with maximum number of people and maximum working load • The safe use of temporary (immobile) access equipment including ladders, trestles, scaffolds – simple independent and tower scaffolds • The requirements for the erection, use and dismantling of scaffolds and falsework • Safe methods for roof work: precautions during work on fragile roofs, edge protection for flat and sloping roofs • The means of temporary access: types and safety features of cradles, boatswains' chairs, rope access and positioning systems • The use of personal and collective fall arrest devices (safety nets, airbags, belts and harnesses). Demolition work <i>Cross reference with assessment criteria 9.7 – asbestos</i> • The main hazards from demolition work including falling materials; premature collapse of buildings; hazardous materials used in construction eg, asbestos • The main controls for demolition work including: planning, structural surveys and surveys for hazardous substances, provision of working places and means of access/egress, use of method statements and permits-to-work, security of site boundaries and protection of the public.

Syllabus

Assessment criteria	Topic	Ref	Content
		10.11	Excavations - The hazards associated with excavation work including: collapse; access; falls of people, objects and vehicles; use of transport; flooding; buried services – types and consequences of damage - The main controls for excavation work including: > the need for temporary shoring (drag boxes, piling) > the methods for checking for buried services and the precautions to be observed > the use of 360 degree excavators > the requirements for inspections and examinations of excavations.
Outline the duty to manage workplace transport risks and how to manage work-related driving risks using a Plan, Do, Check, Act approach.	Workplace transport Work-related driving	10.12	Workplace transport <i>Cross reference with:</i> <i>assessment criteria 9.2 – mental ill-health</i> <i>assessment criteria 9.3 – health surveillance</i> - What should be considered in a workplace transport risk assessment (including those associated with shared workplaces) - The reasons for providing information to all workers and visitors to site relating to workplace transport issues - Why drivers are at risk from fatigue and how fatigue can be managed (also applies to work-related driving) - Use of telematics (GPS system combined with on-board diagnostic systems) to control the risk from workplace transport activities - The requirements to plan in break-times for driving activities. Work-related driving - Managing work-related driving activities using a Plan, Do, Check, Act approach > Plan: how the organisation will manage work-relative driving risks and plans for implementation > Do: prioritise and control risks, consult with workers and provide training and information > Check: measure how well the plans are doing > Act: review and learn from experiences.

Prior learning

Prior learning

Prior learning

The content in this section formed part of the previous International Diploma (November 2015 specification) and also formed part of the International General Certificate. The May 2023 specification will **not** include the content below.

IG – International General Certificate in Occupational Health and Safety (October 2018 specification)

IGC – International General Certificate in Occupational Health and Safety (November 2014 specification)

International Diploma in Occupational Health and Safety (November 2015 specification)		IG element(s)	IGC unit and element(s)
Element number	Content		
IA1.1	Reasons for the effective management of health and safety • Moral: > the concept of reasonable care > the unacceptability of putting the health and safety of people at risk > society's attitude to moral obligations > national accident/incident and ill-health statistics > the effect of size of organisation on accident/incident rates • Legal: > preventive > punitive > the compensatory effects of law • Economic: > the costs associated with accidents/incidents and ill-health and their impact on society and on organisations > the insured and un-insured costs > the financial benefits of effective health and safety management.	E1.1	IGC1 E1.2
IA1.3	The uses of, and the reasons for, introducing a health and safety management system • What is a management system: > application of the Plan, Do, Check, Act cycle (with reference to the British HSE's <i>Managing for health and safety</i>, HSG65) • The reasons for introducing health and safety management systems.	E2.1	IGC1 E2.1

Prior learning

International Diploma in Occupational Health and Safety (November 2015 specification)		IG element(s)	IGC unit and element(s)
Element number	Content		
IA1.4	Principles and content of effective health and safety management systems - Health and safety policy: > the role of the health and safety policy in relation to a health and safety management system and as a vehicle for communicating health and safety information > the requirements for a written health and safety policy and for recording arrangements in relevant standards > the general principles and objectives of a health and safety policy document - The key elements/components of a health and safety management system: > <i>ILO Guidelines on Occupational Safety and Health Management Systems (ILO-OSH 2001)</i> > <i>ISO 45001:2018 Occupational Health and Safety Management Systems</i> - The benefits and limitations of integration of quality, environmental, and health and safety management systems.	E2.1-2.2	IGC1 E1.2-2
IA3.3	Reporting and recording of loss events (injuries, ill-health and dangerous occurrences) and near misses - Reporting requirements and procedures; with reference to the ILO Code of Practice: <i>Recording and Notification of Occupational Accidents and Diseases</i> (1996) - The significance of internal reporting and recording systems.	E4.2	IGC1 E4.3
IA3.4	Loss and near miss investigations - Implied legal requirements - The reasons for carrying out investigations: > legal reasons > information/data gathering > establishing the root, underlying and immediate causes - The benefits of carrying out an investigation: > to prevent recurrence > improved worker morale > developing managerial skills - Investigation procedure with reference to <i>Investigating accidents and incidents – a workbook for employers, unions, safety representatives and safety professionals</i>, HSG245:	E4.2	IGC1 E4.2

Prior learning

International Diploma in Occupational Health and Safety (November 2015 specification)		IG element(s)	IGC unit and element(s)
Element number	Content		
	> initial report (preserve the scene, note people and equipment involved, report event) > decide whether further investigation is required > gather information > analyse the information > identifying risk control measures > produce and implement an action plan • Sharing of information/lessons learned to prevent recurrence.		
IA5.1	Sources of information used in identifying hazards and assessing risk • External information sources (eg, relevant governmental agencies (OSHA/HSE), European Safety Agency, International Labour Organisation (ILO), World Health Organisation (WHO), professional and trade bodies) • Internal information sources – collection, provision, analysis and use of damage, injury, and ill-health data, near-miss information and maintenance records • The uses and limitations of external and internal information sources.	E3.4	IGC1 E3.7
IA5.3	Assessment and evaluation of risk • Key steps in a risk assessment process including: > ensuring comprehensive identification of risks > identifying hazards > identifying persons at risk > the factors affecting probability and severity > risk evaluation and required risk control standards > formulating actions > prioritising actions > requirement to record findings • Use and limitations of generic and specific assessment • Limitations of risk assessment processes • Temporary and non-routine situations • Consideration of long-term hazards to health.	E3.4	IGC1 E3.5

Prior learning

International Diploma in Occupational Health and Safety (November 2015 specification)		IG element(s)	IGC unit and element(s)
Element number	Content		
IA6.2	Factors to be taken into account when selecting risk controls • Preventative and protective measures (with reference to ILO-OSH 2001) • Determine the technical/procedural/behavioural control measures required using the general hierarchy of control (with reference to ISO 45001): > elimination (technical) > substitution (technical/procedural) > engineering controls (technical/behavioural) > signage/warnings and/or administrative controls (procedural/behavioural) > personal protective equipment (technical/behavioural) (Note: technical to include design, fencing, ventilation etc; procedural to include safe systems of work, permit-to-work, maintenance regime etc; behavioural to include information and training).	E3.4	IGC1 E3.5 and E3.6
IA6.3	Safe systems of work and permit-to-work system • Safe systems of work: meaning; legal and practical requirements; components (people, equipment, materials, environment); development and implementation • Permit-to-work systems – essential features, general application, operation and monitoring.	E3.6 and E3.7	IGC1 E3.8 and E3.9
IA7.7	Health and safety culture and climate • The influence of health and safety culture on behaviour and the effect of peer group pressure and norms.	E3.1	IGC1 E3.2
IB2.1	The routes of entry and the human body's defensive responses to hazardous substances • The main routes, (eyes, nose, mouth, skin) and methods of entry (inhalation, ingestion, skin pervasion, injection, aspiration) of hazardous substances into the human body..	E7.2	GC2 E7.2
IB2.2	The identification, classification and health effects of hazardous substances used in the workplace • The influence of physical form (dust, fibre, fume, gas, mist, vapour, liquid) and properties (ie, solubility) on routes of entry.	E7.1	GC2 E7.2

Prior learning

International Diploma in Occupational Health and Safety (November 2015 specification)		IG element(s)	IGC unit and element(s)
Element number	Content		
IB3.1	The prevention and control of exposure to hazardous substances (including carcinogens and mutagens) - Additional control measures for carcinogens and mutagens: > total enclosure > prohibition of eating and drinking in contaminated areas > designation and cleaning of contaminated areas and use of suitable warning signs > closed and labelled containers.	E7.4	GC2 E7.2
IB10.3	Welfare facilities and arrangements in fixed and temporary workplaces - The provision of toilets, washing and changing facilities - The storage of clothing - Facilities for eating, rest rooms.	E8.1	GC2 E1.1
IB10.4	The requirements and provision for first aid in the workplace - The basis of provision including numbers of workers, workplace risks and their assessment, proximity of emergency services etc - Typical arrangements eg, people, equipment and training.s	E3.8	IGC1 E3.11
IC1.4	Work at height - Hierarchy of control measures: > avoid working at height > use an existing safe place of work > provide work equipment to prevent falls (including MEWPS) > mitigate the distance and consequences of a fall > instruction and training and/or other means.	E8.2	not applicable
IC1.5	Lone working The main hazards and risks.	E8.4	not applicable
IC2.1	Properties of flammable and explosive materials and the mechanisms by which they ignite - The fire triangle - Ignition sources (eg, naked flame, hot surfaces, arcing, sparking, smoking, electrostatic discharge).	E10.1	GC2 E6.1

Prior learning

International Diploma in Occupational Health and Safety (November 2015 specification)		IG element(s)	IGC unit and element(s)
Element number	Content		
IC3.4	Means of escape (fire) The general requirements for travel distances, stairs, passageways and doors, emergency lighting, exit and directional signs.	E10.4	GC2 E6.5
IC3.5	Emergency evacuation procedures (fire) - The purposes of and essential requirements for, evacuation procedures and drills, alarm evacuation and roll call - The provision of Fire Wardens and their role.	E10.4	GC2 E6.5
IC5.1	The selection of suitable equipment - The suitability of work equipment for the required task, process and environment - The suitability of the design, construction and adaptation of work equipment.	E9.1	GC2 E4.1
IC6.2	Generic hazards (workplace machinery) - The types of generic machinery hazards: > potential consequences from mechanical hazards (ISO 12100:2010, Table B.1): being run over, being thrown, crushing, cutting/severing, drawing-in/trapping, entanglement, friction/abrasion, impact, injection, shearing, slips/trips/falls, stabbing/puncture, suffocation > non-mechanical hazards: noise, vibration, electricity, high/low temperature, radiation, hazardous substances, ergonomic, environment in which the machine is used.	E9.3	GC2 E4.3
IC6.3	Protective devices (workplace machinery) The main types of safeguarding devices: characteristics, key features, limitations and typical applications of fixed enclosed guards, fixed distance guards, interlocked guards, automatic guards, trip devices, adjustable/self-adjusting guards, two-hand controls, mechanical restraints, jigs and push-sticks.	E9.4	GC2 E4.4
IC8.2	Hazards of electricity and static electricity - The effects of electric shock on the body: pain, muscular contraction, respiratory failure, heart fibrillation, cardiac arrest, burns - The factors influencing the severity of the effects of electric shock on the body: voltage, frequency, duration, impedance/resistance, current path, direct and indirect shock - Common causes of fires: overloading of conductors, overheating, ignition of flammable vapour, ignition of combustible material, breakdown of insulation.	E11.1	GC2 E5.1

Prior learning

International Diploma in Occupational Health and Safety (November 2015 specification)		IG element(s)	IGC unit and element(s)
Element number	Content		
IC8.4	Safe working in the vicinity of high voltage systems Safe working near overhead power lines, underground cables – hazards and precautions.	E11.1	GC2 E5.1
IC8.5	Portable electrical equipment - Conditions and practices likely to lead to accidents, including unsuitable equipment, inadequate maintenance, use of defective apparatus - Control measures, including portable appliance inspection and testing.	E11.1	GC2 E5.1
IC9.2	The management of health and safety on construction sites - The respective roles and responsibilities of clients, designers/engineers/architects, co-ordinator, principal contractors and contractors - Planning, co-ordination and notification.	E1.3	IGC1 E3.1
IC10.1	Workplace transport risk assessment and risk controls - Controlling risks from workplace transport with reference to HSG136 (<i>A guide to workplace transport safety</i>): > safe site: - traffic route design - activity > safe vehicle > safe driver.	E8.6	GC2 E2.1