Unit 4: Safe Working Practice

Delivery guidance

This is a mandatory unit across all qualifications in the suite and covers the vital part that health and safety plays on a construction site. The necessary use of temporary structures on construction sites requires that the many associated hazards are assessed, and the risk evaluated in accordance with the governing legislation.

Approaching the unit

A hands-on, engaging delivery of this subject is essential to get the safety message over to learners. The use of actual health and safety case studies and reports would give an initial starting point for discussion and debate. Learning through errors made in health and safety highlights the serious nature of health and safety provisions on construction sites. Newspaper reports and construction publications give access to such stories and features. Throughout delivery of this unit you will find the United Kingdom (UK) Health and Safety Executive (HSE) (visit the HSE website) is a valuable resource that you can access for free, with many publications, features and safety information. This has been highlighted in the 'Resources' section for this unit.

Delivering the learning aims

Learning aim A could be delivered through a range of learner-led investigations into promoting safe working practices. This could involve videos, case studies, independent research or presentations from visiting speakers. Learners will benefit from the use of these videos and case studies where they can see safety practice, and be able to apply their knowledge of health and safety to develop a deeper understanding of why safe working practice is vital for a successful construction project.

Learning aim B involves initially defining hazards, risk and risk assessments. An ideal method of delivery for this would be to arrange for a site or contracts manager, or government representative, to talk to learners. Where this is not possible, it would be appropriate to use videos or case studies in order to support learning. This would give valuable information on the setting up of a site, the documentation that is required and who is to be notified.

You can then move onto writing risk assessments, evaluating control measures and when to review a risk assessment. A brief detailing work within a specific location would give an ideal delivery vehicle for learners to discuss hazard prevention and create method statements. You could also task learners with formulating a method statement for a main contractor's site, presenting their work in a slide presentation (or a similar format). The use of hazard checklists and video resources for risk analysis will also give useful material for learners to test their understanding. Demonstration of existing method statements is useful and gives learners good understanding of what is contained within such a statement.

You could introduce learning aim C through site visits, videos or class discussions. Give learners a range of different scenarios that they can relate to in order to understand the various activities, such as working at height, manual handling, control of hazardous substances, working with excavation and working with plant and machinery. Learners need to be able to identify the hazards, assess the risks and implement suitable control measures; this could include the use of case studies or primary investigations into the specific activity. Learners could then be given

construction-related problems and case studies for which they need to develop risk assessments, with suitable control measures which are site-specific. Cover the importance of training and education through visiting speakers and group research. Throughout each of the topics, there are opportunities for learners to collaborate on research and investigations.

Assessment model

As this is a mandatory unit in the qualification, it is assessed using a set assignment. Each assessment is set by Pearson and may need to be taken under controlled conditions before it is marked by teachers.

Set assignment units are subject to external standards verification processes common to all BTEC units. By setting an assignment for some units, we can ensure that all learners take the same assessment for a specific unit. Learners are permitted to resit set assignment units during their programme.

Learning aim	Key content areas	Recommended assessment approach
A Explore the principles of safe working practice	**A1** Importance of safe working practice **A2** Regulation of safe working practice **A3** Planning of effective safe working practice	A report evaluating the importance of safe systems, and how planning and regulation contribute to achieving effective safe working practice.
B Carry out the development of a safe system of work for construction operations	**B1** Risk assessment **B2** Principles of hazard prevention **B3** Preparation of method statement	A safety survey with accompanying documentation, including a risk assessment and a method statement.
C Understand safe working practice for on-site construction operations	**C1** General on-site health and safety **C2** Working at height **C3** Controlling substances hazardous to health **C4** Manual handling **C5** Working with plant, machinery and equipment **C6** Working with excavation **C7** Training and education	Explanatory leaflets that reference case studies, showing how the principles of safe working practice uphold and improve health and safety on construction sites.

Getting started

This gives you a starting place for one way of delivering the unit, based around the recommended assessment approach in the specification.

Unit 4: Safe Working Practice

Introduction

The unit covers three key areas: principles of safe working practice, development of a safe system of work for construction operations, and understanding safe working practice for on-site construction operations.

In the delivery of this unit, there are opportunities for you to develop links with a range of local organisations, including construction companies, health and safety consultants and local authorities. These organisations may be able to give information about construction sites that can be used as starting points for scenarios or give learners first-hand experiences of how to carry out a safe system of work and investigate the significance of safety system reviews. They will also develop knowledge of the responsibilities of employees and employers regarding health and safety in construction operations.

The United Kingdom HSE website is very useful as a starting point for health and safety guidance, and they publish many resources that can be used to engage and motivate the understanding of health and safety within a construction context. Health and safety legislation in your location should also be researched and used to support the unit.

Learning aim A – Explore the principles of safe working practice

Learning aim A1

- Introduce this unit with a tutor presentation and refer to the main pieces of legislation that are applicable in your location. Follow this with a presentation and discussion on the most common types of fatalities and workplace injuries.
- To get learners further engaged with health and safety, set up a role-play group exercise. Divide the cohort into employees, employers, self-employed, designers and manufacturers and, in the context of a scenario project, ask each group to discuss how and why they should promote good standards of safe working on a construction project. Groups could then present their findings to give the whole class an overview of the legal position regarding safety and how everyone has a role in promoting safe working practice.
- Alternatively, learners could produce an explanation leaflet for employees starting on a site that outlines how they can promote safe working practice.

Learning aim A2

- Have learners research examples of safe systems of work and develop their own definition of a competent worker.
- The regulation of safe working practice could be delivered by a guest speaker, such as a site manager or local authority employee, who can present learners with details of how to comply with the regulations. A contracts manager from a main contractor could cover the on-site application side of the regulations.
- Ask learners to carry out a research activity and present their findings on the consequences of non-compliance with legislation, standards and enforcement agencies.

Learning aim A3

- For planning effective safe working practice, a suitable method of delivering this is to obtain an example of the content of a safe working management system for a current or recently completed project. Learners can then investigate each of the sections on policy, organising, planning and implementing, evaluation, auditing and actions for improvements. Give each group one section to research and have them present to the rest of the groups.

Learning aim B – Carry out the development of a safe system of work for construction operations

Learning aim B1

- In a tutor-led activity, present photographs of construction sites taken from the internet and display them on the whiteboard, to draw out the different methods of identifying hazards that could be used besides direct observation. Non-visible methods could be drawn out from this discussion, e.g. use of checklists, toolbox talks and so on.
- Arrange a site visit, either to a local construction site or at your centre, to an area where construction activities take place. Task learners with writing a risk assessment and evaluating the control measures for the operation.
- Show a video of a construction activity and instruct learners to produce a written risk assessment for this activity.
- Obtain a copy of a toolbox talk (e.g. from the HSE website) and ask learners to evaluate its effectiveness in getting the message over.
- In small groups have learners discuss the reasons why you may need to review risk assessments.

Learning aim B2

- Introduce this topic with a tutor presentation outlining the basic steps of a risk assessment and the hierarchy of control measures. This could be followed by using a risk assessment given by a visiting speaker or a construction manager for a construction project as an example. The outcome of a risk assessment should be a plan of action which sets out, in priority order, what additional controls are necessary.
- Working in small groups, ask the learners to select a construction activity and complete a risk assessment. They should decide what additional controls are required. Each group could present their findings to the rest of the class and discuss the control measures and the hierarchy proposed.

Learning aim B3

- To conclude learning aim B, a main contractor's health and safety representative or a site manager would be an ideal guest speaker to assist with the delivery of method statements. Brief them to concentrate on the main topics covered in the unit, such as plant and equipment requirements, training procedures, precautions necessary to protect workers and others, handling and storage of materials, temporary works requirements and emergency procedures.

Learning aim C - Understand safe working practice for on-site construction operations

Learning aim C1

- Introduce this learning aim with a presentation outlining the general provisions for managing construction safety on site.
- Arrange a site visit for a local construction site. Have learners record or make notes on the site induction.
- Request a copy of a site induction video from a main contractor. This could then be played to the cohort and examined for compliance with health and safety legislation in a tutor-led discussion.
- Ask learners to review the formal safety notices that are posted on a local site's gates and access points through photographs.

Learning aim C2

- Working at height could be introduced with a review of construction accident statistics related to working at height. Delivery could then take the form of a scenario-based activity based on work to be undertaken at height on a construction site (this could be as simple as giving learners a photograph of an aspect on site to be conducted at height).
- Task learners with recommending a method of undertaking the work and how they will reduce the risk. Learners should also identify the employees' and employer's duties associated with the construction activity and produce a method statement that details all personnel's responsibilities, the precautions to be taken and the PPE required (you will need to make sure that every aspect of the content can be covered within the photograph or source material).

Learning aim C3

- The control of substances hazardous to health can be covered by giving learners a chemical product commonly used on a construction project. Ask them to evaluate it in terms of the precautions that need to be taken, employer's duties, health surveillance and so on. This evaluation could be produced in the form of a risk assessment that covers the control measures for the product.
- An alternative to the risk assessment activity could be the production of a safety guidance leaflet used by operatives prior to using a chemical product.

Learning aim C4

- Introduce manual handling with a review of construction accident statistics related to manual handling. Delivery could then take the form of a scenario-based activity based on work which requires manual handling.
- Give small groups of learners different scenarios and ask them to assess the risk by considering the task, load, and individual and work environment. Then have them identify the necessary control measures by means of eliminating or mitigating manual handling risk, including design, automation and mechanisation.

Learning aim C5

- Introduce working with plant machinery and equipment with a research activity for learners to find out the different types used in local construction projects. A review of construction accident statistics related to working with plant, machinery and equipment could be carried

out in small groups. Delivery could then take the form of a scenario-based activity based on work which involves plant, machinery and equipment.

- Give small groups of learners different scenarios. Ask them to assess the risks and identify the necessary control measures by means of eliminating or mitigating risk associated with using plant, machinery or equipment, such as guards or emergency stop controls.

Learning aim C6

- Introduce working with excavations with a research activity for learners to find out when they have been used in local construction projects. A review of construction accident statistics related to working with excavations could be carried out in small groups. Delivery could then take the form of a scenario-based activity based on working with excavations.
- Give small groups of learners different scenarios. Ask them to assess the risks and identify the necessary control measures by means of eliminating or mitigating risk associated with excavations such as excavation supports, barriers, dewatering, positioning of spoil, and routing of vehicles and plant.

Learning aim C7

- Finally, training and education could be delivered through a task that investigates the question, 'How can you become a competent person on site?'. Learners could then research the following areas: qualifications, off-site training and on-site training.
- Alternatively, ask small groups of learners to prepare a short training presentation including a site induction, toolbox talk on set topics and fire safety training.

Details of links to other BTEC units and qualifications, and to other relevant units/qualifications

This unit links to:

- Unit 1: Construction Technology
- Unit 13: Site Engineering for Construction
- Unit 14: Low Temperature Hot Water Systems in Building Services
- Unit 15: Measurement Techniques in Construction
- Unit 16: Provision of Primary Services in Buildings.

Resources

In addition to the resources listed below, publishers are likely to produce Pearson-endorsed textbooks that support this unit of the BTEC International Level 3 Qualifications in Building Services Engineering, Civil Engineering, and Construction and the Built Environment. Check the Pearson website (http://qualifications.pearson.com/endorsed-resources) for more information as titles achieve endorsement.

Textbooks

HSE – *Health and Safety in Construction HSG150* (HSE, 2006) ISBN 9780717661822

HSE – *Managing Health and Safety in Construction* (HSE, 2015) ISBN 9780717666263

Hughes, P and Ferrett, E – *Introduction to Health and Safety in Construction* (Routledge, 2015) ISBN 9780415824361

Topliss, S, Hurst M, Cummings, S and Donyavi S – *BTEC Nationals Construction Student Book + Activebook* (Pearson, 2017) ISBN 9781292184043 – the core book that accompanies the BTEC Nationals in Construction.

Videos

'Building site time lapse movie' – a time lapse of a complete build that can be stopped and started

'Safety Induction Video | PBS Construction' – construction-related activity

'Construction Site Health and Safety'

'Working at height'

'CSCS Health & Safety Test for Operatives'

Websites

Visit the Health and Safety Executive's (HSE) website, which publishes lots of free publications and resources and statistics, including:

- a step-by-step guide to COSHH assessment
- toolbox talks and safety inductions
- incident reporting
- health and safety statistics.

Visit the Safety Sign Supplies website and search 'Signs by Trade/Business' for the range of safety signs that can be displayed on construction entrances.

Pearson is not responsible for the content of any external internet sites. It is essential for tutors to preview each website before using it in class so as to ensure that the URL is still accurate, relevant and appropriate. We suggest that tutors bookmark useful websites and consider enabling students to access them through the school/college intranet.