Unit title	Building Surveying in Construction
Guided learning hours	60
Number of lessons	30
Duration of lessons	2 hours
Links to other units	
Unit 1: Construction Technology Unit 2: Construction Design Unit 3: Construction Science Unit 4: Safe Working Practice Unit 7: Graphical Detailing Unit 10: Surveying in Construction	

Key to lesson types			
AW	Assignment writing	**RS**	Revision session
GS	Guest speaker	**V**	Visit
IS	Independent study	**GW**	Group Work

Lesson	Topic	Lesson type	Suggested activities	Classroom resources

1	**Learning aims A, B and C**	IS/GW	• **Teacher presentation:** give an overview of the unit covering:
			  ○ key topics of the unit content
			  ○ nature of the learning aims
			  ○ teaching and learning activities.
			• **Type of assessment** and the number of assignments that learners will be expected to complete.
				• Specification – learning aims, unit content and assessment criteria
				• Assignment brief examples in

			• Give learners some examples of work where P, M and D grades have been awarded. Learners to work in groups and identify what differentiates a work at D grade from a work at P grade. Summarise the discussion and add as necessary. • **Introduce** BTEC submission and re-submission rules as well as relevant centre policies • **Introduce** the importance of referencing and the credibility of online resources. • **Tutor-led discussion:** 'What is plagiarism?' Give learners examples of unintended plagiarism. Respond to any questions and summarise. • Emphasise that the unit is hands-on with a number of practical activities and that the practical work will be useful to pursue further studies or employment in building surveying.	terms of task setting and expectations of the quality of work
Learning aim A: Understand the impact of the methods used to construct existing buildings on current and future maintenance requirements				
2	**A1:** Different styles and types of residential property	GW/V	• **Lead in:** introduce the topic by showing some images/illustrations demonstrating the type of properties locally and within the country. • **Tutor-led discussion:** engage learners by asking questions about the suitability of each type of property, summarise key points and add any detail as necessary. • **Group activity:** learners to visit the local area and/or use the internet to identify residential property types and their features. Each group should be allocated two types. For example, Group A could be allocated detached/semi-detached houses while Group B could work on cottages and mansions.	• IT resources • Flipcharts and pens • Task brief

			• **Tutor-led discussion:** lead a class discussion on the findings of each group, summarise key points and add detail where necessary. • **Plenary:** Respond to any questions learners have and introduce the next topic.	
3	**A1:** Different styles and types of residential property	GW	• **Lead in:** introduce key periods and architectural styles of residential property by showing some images/illustrations focusing on the local, national and regional context. • **Group activity:** after initial input as to how external factors such as industrialisation and war impact upon the architectural styles, allocate each group of learners a period and style. Learners to carry out research and present to the class one example of a style, its timeline and influence from external environment (war, industrialisation, style movements). Learners to share their findings with the class. • **Plenary:** Respond to any questions learners have and introduce the next topic.	• IT resources • Flipcharts and pens • Task brief
4	**A2:** Traditional methods of construction	GW	• **Lead in:** introduce the topic by showing some images/illustrations demonstrating the concept of traditional methods of construction. Refer to the topics covered in Unit 4: Construction Technology. • **Q and A:** ask learners to work in pairs on a knowledge quiz. Use this as a learning check and to recap the learning in Unit 4: Construction Technology. Share the answers and ask learners to do self-assessment of their work. • **Tutor presentation:** overview of how key elements in a building are constructed using traditional methods of construction. Give the context that knowledge of such methods will help understand causes of defects as well as how to remedy these. Focus on foundation and wall types (internal and external) used locally and	• IT resources • Flipcharts and pens • Task brief • Quiz

			nationally. Engage learners using questions and answers (Q&A) and by using images, illustrations and other suitable resources. • **Plenary:** apply learning checks through open Q&A activity and intervene/add more teaching as necessary. Introduce the next topic.	
5	**A2:** Traditional methods of construction	GW	• **Tutor presentation:** overview of how key elements in a building are constructed using traditional methods of construction. Give context that knowledge of such methods will help understand causes of defects as well as how to remedy these. Focus on types of doors and windows, roofs and floors used locally and nationally. Engage learners using questions and answers (Q&A) and by using images, illustrations and other suitable resources. • **Group activity:** allocate each group of learners a certain element of traditionally constructed houses and ask them to sketch at least two types of these, including annotations to show materials and construction method used. For example, one group could be allocated solid and cavity walls while the other group could work on strip and raft foundations. Learners present their sketches to the class. Give support and add any detail as necessary. • **Plenary:** summarise key points and introduce the next topic.	• IT resources • Flipcharts and pens • Suitable equipment for sketching • Task brief
6	**A2:** Traditional methods of construction	GW	• **Tutor-led discussion:** give context that knowledge of construction methods will help understand causes of defects as well as how to remedy these. Lead a class discussion on the relationship between construction method and impact on current and future repair and remedial work. Use images, illustrations and local examples. Engage learners using questions and answers (Q&A). • **Group activity:** develop short scenarios for various types of construction methods and give one of these to each group. For example, one group will be given flat roofs while the other pitched roofs. Each group will draw upon their learning in this unit as well	• IT resources • Flipcharts and pens • Suitable equipment for sketching • Task brief

			as in other units specifically, Unit 4: Construction Technology. Each group will produce a poster showing how a construction method could impact on current and future repair and remedial work required. Learners present their posters to the class. Give support and add any detail as necessary. • **Plenary:** summarise key points and introduce the next topic.	
7–9	**A3:** Modern methods of construction	V	• **Tutor-led class discussion:** introduce modern methods of construction (MMC) by referring to a local project of interest. Engage learners using questions and answers (Q&A) and by using images, illustrations and other suitable resources. • **Pre-visit activity:** site visit, ideally showing foundations, floors, walls including insulation, roofs and pods. Coordinate with the site staff to ascertain: o health and safety requirements o type of project o construction stage o extent to which site staff could engage (project presentation, access to drawings, site investigation data, design data). • **Pre-visit group activity:** brief learners about the site visit, including health and safety arrangements, project overview and what they should expect to see. Give clear instructions that the learners have to make note of important construction features of various elements of construction using notes, sketches, annotations and photographs. • **Post-visit group activity:** each group will draw upon their learning during the site visit as well as in other units, specifically Unit 4: Construction Technology. Each group will produce a poster showing how an MMC could impact on current and future repair	• Appropriate Personal Protective Equipment (PPE) • Note taking arrangements • Sketching and/or photography equipment • IT resources • Flipcharts and pens

			and remedial work required. Learners present their posters to the class. Give support and add any detail as necessary. • **Plenary:** summarise key points and introduce the next topic.	
10–11	**Learning aim A**	AW	• **Tutor presentation:** overview of assignment requirements, nature of assessment and timeline for completion/submission. Make a reference to the in-class tasks completed and their relationship to the assessment. • **Individual activity:** learners have the opportunity to begin work on assignment or discuss further with the tutor.	• Assignment brief covering learning aim A
Learning aim B: Explore different defects and methods of repair for low-rise residential properties				
12	**B1:** Defects to the external envelope **B3:** Methods of repair and remediation	GW	• **Tutor presentation:** overview of defects to the key elements of a building, referring to those most commonly noted in the building surveys. Recap the relationship between construction method and impact on current and future repair and remedial work from learning aim A. Focus on defects related to foundations and walls in terms of their causes as well as how to repair and remedy these. Engage learners using questions and answers (Q&A) and by using images, illustrations and other suitable resources. • **Group activity:** allocate each group of learners a set of defects related to foundations and walls. Learners to identify possible causes of defects and how these could be repaired. Learners can present verbally or communicate via their sketches to the class. Give support and add any detail as necessary. • **Plenary:** summarise key points and introduce the next topic.	• IT resources • Flipcharts and pens • Suitable equipment for sketching • Task brief
13	**B1:** Defects to the external envelope **B3:** Methods of repair and remediation	GW	• **Tutor presentation:** overview of defects to chimneys and roofs in a building, referring to those most commonly noted in the building surveys. Recap the relationship between construction method and impact on current and future repair and remedial work from	• IT resources • Flipcharts and pens

			learning aim A. Focus on defects related to chimneys and roofs in terms of their causes as well as how to repair and remedy these. Engage learners using questions and answers (Q&A) and by using images, illustrations and other suitable resources. • **Group activity:** allocate each group of learners a set of defects related to chimneys and roofs. Learners to identify possible causes of defects and how these could be repaired. Learners can present verbally or communicate via their sketches to the class. Give support and add any detail as necessary. • **Plenary:** summarise key points and introduce the next topic.	• Suitable equipment for sketching • Task brief
14	**B1:** Defects to the external envelope **B3:** Methods of repair and remediation	GW	• **Tutor presentation:** overview of defects to doors, windows and failure of decoration in a building, referring to those most commonly noted in the building surveys. Recap the relationship between construction method and impact on current and future repair and remedial work from learning aim A. Focus on defects related to doors, windows and failure of decoration in terms of their causes as well as how to repair and remedy these. Engage learners using questions and answers (Q&A) and by using images, illustrations and other suitable resources. • **Group activity:** allocate each group of learners a set of defects related to doors, windows and failure of decoration. Learners to identify possible causes of defects and how these could be repaired. Learners can present verbally or communicate via their sketches to the class. Give support and add any detail as necessary. • **Plenary:** summarise key points and introduce the next topic.	• IT resources • Flipcharts and pens • Suitable equipment for sketching • Task brief
15	**B2:** Internal defects **B3:** Methods of repair and remediation	GW	• **Tutor presentation:** overview of internal defects to the key elements of a building, referring to those most commonly noted in the building surveys. Recap the relationship between construction method and impact on current and future repair and remedial	• IT resources • Flipcharts and pens

			work from learning aim A. Focus on defects related to ground floor including concrete, timber, stone slab and compacted earth or aggregates, in terms of their causes as well as how to repair and remedy these. Engage learners using questions and answers (Q&A) and by using images, illustrations and other suitable resources. • **Group activity:** allocate each group of learners a set of defects related to concrete, timber, stone slab and compacted earth or aggregates at ground floor. Learners to identify possible causes of defects and how these could be repaired. Learners can present verbally or communicate via their sketches to the class. Give support and add any detail as necessary. • **Plenary:** summarise key points and introduce the next topic.	• Suitable equipment for sketching • Task brief
16	**B2:** Internal defects **B3:** Methods of repair and remediation	GW	• **Tutor presentation:** overview of internal defects to upper floor ceilings, walls, stairs and decoration, referring to those most commonly noted in the building surveys. Recap the relationship between construction method and impact on current and future repair and remedial work from learning aim A. Focus on defects related to upper floor ceilings, walls, stairs and decoration, in terms of their causes as well as how to repair and remedy these. Engage learners using questions and answers (Q&A) and by using images, illustrations and other suitable resources. • **Group activity:** allocate each group of learners a set of defects related to upper floor ceilings, walls, stairs and decoration. Learners to identify possible causes of defects and how these could be repaired. Learners can present verbally or communicate via their sketches to the class. Give support and add any detail as necessary. • **Plenary:** summarise key points and introduce the next topic.	• IT resources • Flipcharts and pens • Suitable equipment for sketching • Task brief

17–19	**Learning Aim B**	V	• **Pre-visit activity:** site visit, ideally to a building requiring or undergoing refurbishment. Coordinate with the site staff to ascertain:
			  ○ health and safety requirements
			  ○ type of project
			  ○ construction stage
			  ○ extent to which site staff could engage (project presentation, access to drawings, site investigation data, design data).
			• **Pre-visit group activity:** brief learners about the site visit, including health and safety arrangements, project overview and what they should expect to see. Give clear instructions that the learners have to make note of various defects and how these have been repaired or proposed to be repaired or could be repaired as the case might be. Learners to make a checklist of features and elements to be observed during the visit including both internal and external elements.
			• **Group activity during the visit:** learners to complete the checklist using notes, sketches, annotations and photographs. Learners to make use of available staff and project documents to gather as much information as they can.
			• **Post-visit group activity:** each group will draw upon their learning during site visit as well as in other units, specifically Unit 4: Construction Technology. Each group will produce a poster for an allocated part of the project/building showing the defects observed, possible causes and repair and remedial work required. Learners present their posters to the class. Give support and add any detail as necessary.
			• **Plenary:** summarise key points and introduce the next topic.
				• Appropriate Personal Protective Equipment (PPE)
				• Note taking arrangements
				• Sketching and/or photography equipment
				• IT resources
				• Flipcharts and pens

Learning aim C: Undertake a building survey of a low-rise residential property				
20	**C1:** Types of survey	GW	• **Tutor presentation:** introduce the different survey types, their use and application, and the actual process of undertaking a survey. Cover format and content of an industry standard report by showing examples. Engage learners through Q&A. • **Group activity:** each group to be allocated three survey types. Each group to investigate the purpose of the survey, time spent during the survey, health and safety considerations and an outline of the process. Ask learners to engage in discussion with their peers and comment upon layout and contents of each type of survey. • **Plenary:** draw upon the key points and summarise.	IT resources Example survey reports Flipcharts and pens Task brief
21–23	**C2:** Undertaking a building survey **C4:** Skills, knowledge and behaviours	V	• **Lead-in:** arrange visit to a low-rise building in need of refurbishment where learners can carry out a building survey. Give instructions to the learners about health and safety considerations, how to access the property and the equipment needed during the visit. • **Group activity during visit:** learners to work in groups and carry out a building survey according to the guidance and instructions contained in the task brief. Learners to inspect building's main elements (walls, roof, floors, doors and windows). Learners will record condition and defects with the help of measuring equipment, photographic records and annotations. • **Post-visit group activity:** learners to write a building survey report including general description of the property, details of condition and specific defects. • **Peer feedback:** groups to critically evaluate each other's survey report and give feedback.	• Task brief • Appropriate Personal Protective Equipment (PPE) • Note taking arrangements • Sketching and/or photography equipment • Measuring equipment • IT resources • Flipcharts and pens

			• **Tutor feedback:** arrange a meeting with individual groups and learners and give feedback relating to their skills, knowledge and behaviour. Within your feedback, comment upon the ability to communicate using appropriate media covering both verbal and written communications.	
24–25	**C3:** Undertaking measured surveys **C4:** Skills, knowledge and behaviours	V	• **Lead-in:** arrange a visit to a low-rise building requiring a measured survey. Give instructions to the learners about health and safety considerations, how to access the property and the equipment needed during the visit. • **Group activity during visit:** learners to work in groups and carry out a measured survey according to the guidance and instructions contained in the task brief. Learners to inspect the building for sketching the layout of floor plans and elevations. Learners will take and record measurements to produce floor plans and elevations. • **Post-visit group activity:** learners to produce survey drawings to a suitable scale. These drawings will include scale plans and elevations. • **Peer feedback:** groups to critically evaluate each other's drawings and give feedback. • **Tutor feedback:** arrange meeting with individual groups and learners and give feedback relating to their skills, knowledge and behaviour. Within your feedback, comment upon the ability to communicate using appropriate media covering both verbal and written communications	• Task brief • Appropriate Personal Protective Equipment (PPE) • Note taking arrangements • Sketching and suitable drawing equipment • Measuring equipment • IT resources
26–28	**Learning aims B and C**	RS	• **Lead-in:** issue a mock assignment brief covering learning aims B and C. Arrange a building in need of refurbishment. This could be one of the buildings used earlier, in which case they can use the information gathered earlier. Give instructions to the learners	• Appropriate PPE • Mock assessment brief • Note taking arrangements

			about health and safety considerations, how to access the property and the equipment needed during the visit • **Group activity:** learners to visit the building and take extensive observations including measurements for scale drawings and condition of various elements including defects, in the form of sketches, photographs and annotations. Learners to produce a report covering condition, defects, their possible causes, suggested repair and remedial measures and a set of scale drawings including plans and elevations. • **Peer feedback:** groups to critically evaluate each other's reports and suggest improvements. • **Plenary:** summarise the learning and activities in this unit and relate these to the final assessment to be issued next week.	• Sketching and suitable drawing equipment • Measuring equipment • IT resources
29–30	**Learning Aims B and C**	AW	• **Tutor presentation:** overview of assignment requirements, nature of assessment and timeline for completion/submission. Make a reference to the in-class tasks completed and their relationship to the assessment. • **Individual activity:** learners have opportunity to begin work on assignment or discuss further with tutor.	• Assignment brief covering learning aims B and C

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.