Unit 305: Principles of maintenance and repair

Sample scheme of work

Please revise the following text to suit your requirements.

This sample scheme of work covers only classroom activities for unit 305. It is based on three-hour sessions with a 15-minute break halfway through each session. The scheme of work includes 8 theory lessons covering principles of maintenance and repair. Within the scheme of work are opportunities for practical development of the skills required within splicing structural and non-structural components.

It is an example only of a possible scheme of work and is based on theory and practical within an FE centre delivering the Level 3 Diploma in Site Carpentry. Unit 305 is designed as a stand-alone unit and should be used in conjunction with the standards set for the qualification to ensure full coverage of the learning requirements.

You can use the sample scheme of work as it is, adjust it or extract content to create a scheme of work to suit your delivery needs. It can also be adjusted by adding theory and practical workshops to support learners who have/need additional learning time.

Reference is made within the scheme of work to learning materials and other resources required for each session. A version of this scheme of work with **full supporting materials** is also available to purchase on **SmartScreen.co.uk**. Resources consist of physical equipment required, as well as any technologies needed. Where possible we have included blended learning activities that make good use of technology so as to help centres fulfil the minimum amount of digital teaching recommended by government.

Centres should also incorporate the following themes, where appropriate, as strands running through each of the sections within the qualification. Although they are not specifically referred to in the section content section, City & Guilds regards these as essential in the teaching of the qualification:

- health and safety considerations, in particular the need to impress upon learners the fact that they must preserve the health and safety of others as well as themselves
- functional skills (mathematics, English and ICT)
- extension tasks and differentiation, inclusion, entitlement and equality issues
- spiritual, moral, social and cultural issues
- environmental education and related European issues
- British values
- Values and Behaviours
- use of information learning technology (ILT).

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Unit 305: Principles of maintenance and repair

Sample scheme of work

Course/qualification: _____ **Tutor's name**: _____

Number of sessions: 10 **Delivery hours**: 30 **Venue**: _____ **Group**: _____

Aims	**To enable learners to:**
The aim of this unit is to provide the learner with the knowledge to • Carry out maintenance and repair of: — structural carpentry and joinery — non-structural carpentry and joinery • In accordance with the current health and safety legislation and Building Regulations	• Understand the causes and prevention of deterioration and decay • Understand how to repair and maintain carpentry

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Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 1** (3 hours)	**Learning outcome 1: Understand the causes and prevention of deterioration and decay** **Topic 1.1 Causes of deterioration and decay** • Understand the causes and prevention of deterioration and decay	**Activities:** • Tutor to outline the principle causes of deterioration and decay • Learners to complete Activity 1 by marking statements on why a building may decay as either true or false **Resources:** • Activity 1: A series of true and false statements about reasons for decay	• Observation • Q&A • Activities

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Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 2** (3 hours)	**Learning outcome 1: Understand the causes and prevention of deterioration and decay** **Topic 1.1 Causes of deterioration and decay** • Outline the main types of decay and their causes	**Activities:** • Review previous session • Tutor to outline and describe the main types of decay found in buildings: — wet rot — dry rot — water damage • Learners to complete Activity 2 by identifying wet rot, its causes and remedies • Learners to complete Activity 3 by identifying dry rot, its causes and remedies • Learners to complete Activity 4 by marking statements on timber infestation as either true or false **Resources:** • Activity 2: Learners to a) list the main causes of the moisture that fungi causes fungi and wet rot; b) with the aid of sketches describe the lifecycle of wet rot; c) describe indications of wet rot and the general appearance of the timber when wet rot occurs; d) identify the main course of action in eliminating wet rot • Activity 3: Learners to a) state where dry rot spores can be found; b) identify what is required to make dry rot harmful; c) list the possible signs that would indicate dry rot decay; d) describe ways of preventing dry rot • Activity 4: A series of true and false statements about timber infestation • Video link to wet rot: https://www.youtube.com/watch?v=xXbI7YoN0ZM • Video links to dry rot: https://www.youtube.com/watch?v=vjUCw8s7ZLs https://www.youtube.com/watch?v=KjHB5tzx9fE	• Observation • Q&A • Activities

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Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 3** (3 hours)	**Learning outcome 1: Understand the causes and prevention of deterioration and decay** **Topic 1.1 Causes of deterioration and decay** • Outline the main types of infestation to be found in timber	**Activities:** • Tutor to outline the types of timber boring insects: — common furniture beetle — powderpost beetle — deathwatch beetle • Learners to complete Activity 5 by answering questions on wood boring beetles, identifying types of wood boring beetles, their life cycle and habitat. **Resources:** • Activity 5: Learners to briefly describe what should be done at each of the following three stages of infestation of common furniture beetle: 1) identification; 2) eradication of the infestation; 3) prevention of further infestations • Video links to wood boring beetles: — https://www.youtube.com/watch?v=6E_klB-WLd8 — https://www.youtube.com/watch?v=Hiw6hqTG610 — https://www.youtube.com/watch?v=KuXqRi_I3VM — https://www.youtube.com/watch?v=7EmNRsX6Ecc	• Observation • Q&A • Activities

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Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 4** (3 hours)	**Learning outcome 1: Understand the causes and prevention of deterioration and decay** **Topic 1.1 Causes of deterioration and decay** **Topic 1.2 Types of maintenance** **Topic 1.3 Costs and implications** • Understand the importance of maintenance planes and checklists	**Activities:** • Review previous session • Tutor to outline types of maintenance and checklists: – unplanned maintenance – planned maintenance • Learners to complete Activity 6 by producing a maintenance checklist to be used on typical domestic properties **Resources:** • Activity 6: Learners to outline the areas that should be included in a maintenance checklist under each of the following headings: 1) external inspection; 2) internal inspection	• Observation • Q&A • Activities

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Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 5** (3 hours)	**Learning outcome 1: Understand the causes and prevention of deterioration and decay** **Topic 1.1 Causes of deterioration and decay** **Topic 1.2 Types of maintenance** **Topic 1.3 Costs and implications** • Understand the importance of maintenance plans and checklists	**Activities:** • Review previous session • Tutor to outline the purpose and use of maintenance plans and checklists • Learners to complete Activity 7 to develop a maintenance checklists, working in pairs and using web-based sources **Resources:** • Activity 7: Learners to produce a checklist that can be used on site as part of a planned maintenance programme, identifying all the major areas for inspection. Learners should be encouraged to search online and design a workable version that is either digital or paper-based. Learners can either work individually or in small groups, providing all learners partake in the activity. It is anticipated that this activity will last into the next session when the learners/groups should present their findings to the class.	• Observation • Q&A • Activities

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Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 6** (3 hours)	**Learning outcome 1: Understand the causes and prevention of deterioration and decay** **Topic 1.1 Causes of deterioration and decay** **Topic 1.2 Types of maintenance** **Topic 1.3 Costs and implications** • Understand the importance of maintenance plans and checklists	**Activities:** • Review previous session • Learners to complete Activity 7 started in previous session • Bring completed checklists together and give a classroom demonstration of the completed checklists **Resources:** • Activity 7: Completed maintenance checklists	• Observation • Q&A • Activities

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Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 7** (3 hours)	**Learning outcome 2: Understand how to repair and maintain carpentry** **Topic 2.1 Structural** • Understand how to use temporary support systems — vertical shore — raking shore — flying shore	**Activities:** • Review previous session • Tutor to outline how to use temporary support systems when repairing or replacing components within the building • Learners to complete Activity 8 by describing and sketching the following types of support systems: — vertical shore — raking shore — flying shore **Resources:** • Activity 8: Learners to describe and sketch vertical, raking and flying shores • Video link to props http://www.heatonproducts.ie/project/acrow-props/	• Observation • Q&A • Activities

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Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 8** (3 hours)	**Learning outcome 2: Understand how to repair and maintain carpentry** **Topic 2.1 Structural** • Understand how to repair and replace – structural joists – structural rafters – flat roof and joist coverings	**Activities:** • Review previous session • Tutor to outline how to repair or replace components within the building, including the following repair methods: – splicing/scarfing – piecing in – splint repairs • Learners to complete Activity 9 by describing with the aid of sketches how they complete repair the timber repairs outlined • Learners to complete Activity 10 by answering the questions on floorboard repairs **Resources:** • Activity 9: Learners to describe with the aid of sketches a) how they would repair rafter feet that have rotted off at the eaves; b) how a scarfing joint is used to join structural timbers in their length • Activity 10: Learners to a) describe one method of removing the first floorboard of a section that needs replacing when no sections of the floor have previously been lifted; b) describe with the aid of sketches three methods of fixing replacement floorboards; c) describe with the aid of sketches how the last board could be fitted where there are already boards fitted either side • Video links to repair joists: https://youtu.be/73_vpD-lLyY https://www.youtube.com/watch?v=hXtZnOxnZ8c • Video link to forming a scarfing joint: https://youtu.be/6j-U1P49r8U • Video link to lifting floorboards: https://youtu.be/WlcAUU8JIdw • Video link to replacing floorboards https://youtu.be/vwKJ7tmMbiQ	• Observation • Q&A • Activities

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Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 9** (3 hours)	**Learning outcome 2: Understand how to repair and maintain carpentry** **Topic 2.2 Non-structural** • Understand how to repair and replace – fascia – soffit – guttering	**Activities:** • Review previous session • Tutor to outline how to repair and replace: – fascia – soffit – guttering • Learners to complete **Activity 11 by** identifying components within box end fascia and soffit **Resources:** • Activity 11: Learners to a) with the aid of sketches, describe how the soffit is held in place when fixing closed eaves finishes; b) state the procedure for installing guttering • Video link to fascia, soffit and guttering: https://youtu.be/z12D7S9ICWk	• Observation • Q&A • Activities

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Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 10** (3 hours)	**Learning outcome 2: Understand how to repair and maintain carpentry** **Topic 2.2 Non-structural** • Understand how to repair – frames – stairs – mouldings – door and window components and associated ironmongery	**Activities:** • Review previous session • Tutor to outline how to repair the following components: – frames – stairs – mouldings – door and window components and associated ironmongery • Learners to complete Activity 12 by identifying repair methods for frames **Resources:** • Activity 12: Learners to a) list three types of wood filler that are commonly available; b) state the basic steps in refurbishing broken sash cords on box sash windows; c) state the additional health hazard that could be present when sanding old paint on sash windows • Links to working with lead paint: – https://www.gov.uk/government/uploads/system/uploads/attachmentdata/file/221085/pb10973-leadpaintleaflet.pdf – https://www.health.ny.gov/publications/2502/ • Video links to sash repairs: – https://youtu.be/C-EhMlAOWBw – https://youtu.be/C2Bm0Pu0DUc	• Observation • Q&A • Activities

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