Unit 304: Fixing stairs with turns

Sample scheme of work

Please revise the following text to suit your requirements.

This sample scheme of work covers both classroom and workshop based learning for unit 304. It is based on three-hour sessions with a 15-minute break halfway through each session. The scheme of work includes 12 theory lessons covering stair terminology and installation, followed by 18 practical sessions to allow the learner to practise activities involved with installing stairs with turns. Within the practical activities there is scope to challenge and stretch learners.

This 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 Advanced Technical Diploma in Site Carpentry. Unit 304 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
- personal learning and thinking skills (PLTS)
- use of information learning technology (ILT)
- learners to prepare a few brief notes in small group discussions on the possible implications of not following health and safety regulations.

© 2016 City and Guilds of London Institute. All rights reserved.

Unit 304: Fixing stairs with turns

Sample scheme of work

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

Number of sessions: 30 **Delivery hours**: 90 **Venue**: _____ **Group**: _____

Aims	**To enable learners to:**
The purpose of this unit is for learners to: • develop a thorough understanding of the principles and processes of constructing intermediate landings and fixing stairs with turns, ensuring that all work undertaken complies with the current Building Regulations	• understand and recognise the types and arrangements of stairs with turns • identify component terminology for stairs with turns • fix a flight of stairs with turns • install handrailing for turning stairs

© 2016 City and Guilds of London Institute. All rights reserved.

Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 1** (3 hours)	**Learning outcome 1: Understand stair types and component terminology** **Topic 1.1 Types and arrangements of turning staircases** • Types and arrangements of turning staircases	**Activities:** Introduction to unit • Tutor to identify and outline the types and arrangements of turning stairs: – newel and non-newel stairs – closed string – cut strings – open riser • Learners to complete Activity 1 by identifying each of the stair types shown and stating which one would require the least amount of space • Learners to complete Activity 2 by giving a brief description of the stair type shown and its uses **Resources:** • Activity 1: Drawings of the following stair types for learners to identify: quarter-space landing, half-space of tapered steps (made up of two quarters), quarter-space of three tapered steps, quarter-space with two tapered steps • Activity 2: Drawings of the following stair types for learners to identify and describe: open-well stair, geometrical or helical stair • Link to stair designs: http://www.stairplan.com/openplan.htm	• Observation • Q&A • Activities
Theory activities **Session 2** (3 hours)	**Learning outcome 1: Understand stair types and component terminology** **Topic 1.2 Component parts associated with turning**	**Activities:** • Tutor to outline the components associated with turning staircases and landings including: – string	• Observation • Q&A • Activities

© 2016 City and Guilds of London Institute. All rights reserved.

Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
	staircases and landings • Component parts associated with turning staircases and landings	– tread – riser – newels – baluster/balustrade – brackets – carriage – handrail – capping – wedges – glue blocks – nosing – joists – decking – winders – steps • Learners to use Activity 3 to identify parts of turning staircases • Learners to use Activity 4 to identify parts of staircases through cross-section • Learners to use Activity 5 to identify parts of trimmed opening for staircases • Learners to use Activity 6 to identify parts of winder staircases **Resources:** • Activity 3: Drawing of stairs showing the following components for learners to identify: tread, riser, newel post, bullnose step, string,	

© 2016 City and Guilds of London Institute. All rights reserved.

Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
		nosing, landing, balustrade, drop pendant newal post • Activity 4: Drawing of stair cross-sections showing the following parts for learners to identify: plasterboard ceiling, capping handrail, spandrel panelling, tread, spindle, fixing batten, riser, string, handrail • Activity 5: Drawing of a vertical section through a stair trimmer showing the following parts for learners to identify: trimmed joist, floor covering, packer, apron lining, nosing piece, plasterboard, cover piece • Activity 6: Drawing of a winder staircase showing the following for learners to identify: bottom newel post, skew winder, bullnose step, kite winder, landing, top newel, square winder, tread, winder/common newel, handrail	
Theory activities **Session 3** (3 hours)	**Learning outcome 2: Fix a flight of stairs with a turn** **Topic 2.1 Building Regulations** • Building Regulations (Part K) and ability to apply them when fixing stairs with quarter-turns	**Activities:** • Tutor to outline the Building Regulations associated with stairs including turns • Learners to complete Activity 7 to answer Building Regulations questions • Learners to complete Activity 8 to determine the rise and going **Resources:** • Activity 7: Questions on the details of Building Regulations Document K to check learners' understanding • Activity 8: Specification provided for learners to use, along with Approved Document K, to find the rise and going • Planning Portal: http://www.planningportal.gov.uk/buildingregulations/approveddocuments/partk • Approved Document K, available from:	• Observation • Q&A • Activities

© 2016 City and Guilds of London Institute. All rights reserved.

Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
		http://www.planningportal.gov.uk/uploads/br/BR_PDF_AD_K_2010.pdf	
Theory activities **Session 4** (3 hours)	**Learning outcome 2: Fix a flight of stairs with a turn** **Topic 2.2 Fixing stairs with turns** • Explain how to install a quarter-turn stair	**Activities:** • Review previous session • Tutor to outline the process for installing turning staircases: – trimming opening • Learners to use Activity 9 to identify trimming components • Learners to work in pairs to complete Activity 10, discussing ideas on how to construct an opening in a floor for the staircase given during practical sessions. Learners should develop a simple method statement for the trimming out of the stairwell for the fitting of a quarter-turn staircase, ensuring all workshop health and safety regulations are adhered to. The method statement should identify all significant activities in a logical sequence of activities. **Resources:** • Activity 9: drawing of a winder staircase showing the following for learners to identify: trimmer joist, stairwell, trimming joists, bridging joists, trimmed joists, cavity wall, load bearing wall • Activity 10: Learners to develop a simple method statement for the trimming out of the stairwell for the fitting of a quarter-turn staircase • Planning portal: http://www.planningportal.gov.uk/buildingregulations/approveddocuments/partk • Approved Document K, available from: http://www.planningportal.gov.uk/uploads/br/BR_PDF_AD_K_2010.pdf	• Observation • Q&A • Activities

© 2016 City and Guilds of London Institute. All rights reserved.

Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 5** (3 hours)	**Learning outcome 2: Fix a flight of stairs with a turn** **Topic 2.2 Fixing stairs with turns** • Explain how to install a quarter-turn stair	**Activities:** • Review previous session • Tutor to outline the process for installing turning staircases: – fixing turning stairs – winder treads • Learners to complete Activity 11 by identifying the components on the drawing and briefly describing how to fit the top newel post over the landing joists **Resources:** • Activity 11: Drawing showing a newel post for learners to identify components and briefly describe how to fit the top newel post over the landing joists • Planning Portal: http://www.planningportal.gov.uk/buildingregulations/approveddocuments/partk • Approved Document K: http://www.planningportal.gov.uk/uploads/br/BR_PDF_AD_K_2010.pdf • Fitting newel posts: https://youtu.be/AUhN_qrUSnM • How to assemble tapered treads: http://www.stairbox.com/staircase_help/how_to_fit_kite_winders.html	• Observation • Q&A • Activities

© 2016 City and Guilds of London Institute. All rights reserved.

Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory activities **Session 6** (3 hours)	**Learning outcome 2: Fix a flight of stairs with a turn** **Topic 2.3 Shaped steps** **Topic 2.4 Guarding stairs** • Explain how to install a quarter-turn stair	**Activities:** • Recap on previous session • Tutor to outline the process for installing turning staircases: — entry step — hand railing • Learners to complete Activity 12 by answering the questions on entry steps • Learners to complete Activity 13 by sketching the dovetail joint between the baluster and treads on cut string stair construction • Learners to complete Activity 14 by identifying, with the aid of sketches, three methods used in continuous handrailing when a change in level is required **Resources:** • Activity 12: Learners to a) name four common types of shaped entry steps, b) state two typical baluster positions on cut string staircases, c) state the maximum allowed gap between balusters for domestic dwellings, d) name two methods of fixing balusters to cut strings, e) state the height of the balustrade for a stair suitable for a domestic dwelling and f) state on what width of stair a handrail is required on both sides • Activity 13: Learners to sketch the dovetail joint between the baluster and treads on cut string stair construction • Activity 14: Learners to identify, with the aid of sketches, three methods used in continuous handrailing when a change in level is required	• Observation • Q&A • Activities

© 2016 City and Guilds of London Institute. All rights reserved.

Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Theory and practical activities **Session 7** (3 hours)	**Learning outcome 2: Fix a flight of stairs with a turn** **Topic 2.2 Fixing stairs with turns** • Carry out risk assessment for fixing a quarter-turn flight of stairs • Produce risk assessment for workshop activities from workshop walk round	**Activities:** • Review previous week • Tutor to outline the process for carrying out risk assessments: – hazards – risks – people at risk – control measures • Learners to complete Activity 15 by answering questions on risk assessments • Learners to complete Activity 16 by completing a sample blank risk assessment form while inspecting the workshop area that they will be using to carry out the practical activities, identifying all significant hazards and establishing suitable control measures along with time periods **Resources:** • Activity 15: Learners to a) outline the aims of a risk assessment, b) identify the key stages to a risk assessment, c) give a definition of a hazard and a risk, d) list six hazards found while fixing turning staircases and traditional cut roofs • Activity 16: A sample blank risk assessment form to be used by the learners while inspecting the workshop area that they will be using to carry out the practical activities • Audio on five steps to risk assessment: http://www.hse.gov.uk/pubns/talkingleaflets/indg163.mp3 • Example risk assessment for woodworking company: http://www.hse.gov.uk/risk/casestudies/pdf/woodworking.pdf	• Observation • Q&A • Activities

© 2016 City and Guilds of London Institute. All rights reserved.

Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
		• Interactive risk assessments: http://www.hse.gov.uk/risk/assessment.htm • Hazards: http://www.hse.gov.uk/risk/identify-the-hazards.htm • Basic information for method statements and risk assessments: http://www.hse.gov.uk/risk/identify-the-hazards.htm • Example risk assessment and method state templates: http://www.hsdirect.co.uk/free-info/method-statement.html	
Practical activity **Sessions 8–29** (66 hours)	**Learning outcome 2: Fix a flight of stairs with a turn** **Topic 2.2 Fixing stairs with turns** • Fix a quarter-turn flight of stairs to given specifications	**Activities:** Session 8 to 29: practical workshop activities following relevant regulations and workshop rules. Fitting quarter-turn winder staircase: • Select correct tools and materials to fit stairs • Construct opening by trimming out landing • Prepare stairs for fitting • Position and fit winder stairs • Fit hand railing and balustrade • Fit shaped entry step • Protect treads etc • Complete landing decking and apron lining Fitting quarter-turn staircase: • Construct landing for quarter-turn staircase • Prepare stairs for fitting • Position and fit stairs • Fit hand railing and balustrade	• Observation • Q&A • Activities

© 2016 City and Guilds of London Institute. All rights reserved.

Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
		• Fit shaped entry step • Protect treads etc • Complete landing decking and apron lining **Resources:** • Selection of timber and timber-based material • Portable power tools and hand tool • Activity 16: A sample blank risk assessment form to be used by the learners while inspecting the workshop area that they will be using to carry out the practical activities • Individual learning plans: for each session, learners should outline the objectives that they reasonably expect to complete in that session. As the sessions progress, feedback from the previous sessions will guide and focus their future learning aims and objectives. • Trimming out specification and task list • Fixing winder staircase specification and task list • Fixing quarter-turn staircase specification and task list. • Tutor notes: The size of staircases to be fitted in the trimmed opening should reflect those to be found in domestic dwellings. Each step should reflect those outlined in Approved Document K. These size and number of treads can be adjusted within reasonable variations to suit the availably and sizes of materials available within your workshop. Any adjustments made to the size of the staircase and its hand railing should still represent a realistic staircase.	
Theory activity	**Learning outcome 1: Understand stair types and component terminology**	**Activity:** • Learners to review Unit 304 and complete multiple choice questions **Resources:**	• Observation • Q&A • Activities

© 2016 City and Guilds of London Institute. All rights reserved.

Session	Objectives/learning outcomes **The learner will:**	Activities and resources	Assessment
Session 30 (3 hours)	**Learning outcome 2**: **Fix a flight of stairs with a turn** • Review of unit	• Set of 20 end of unit multiple choice test questions to check learner's understanding of the unit	• End of unit questions

© 2016 City and Guilds of London Institute. All rights reserved.