City & Guilds Level 3 Certificate of Competence in Aerial Tree Rigging (0039-32)

September 2022 Version 1.3

Assessment Pack – Centre and Candidate Version

Version and date	Change detail	Section
1.0	First version	
1.1 August 2021	Assessor instructions updated	Introduction
1.2 October 2021	AO name added to qualification title	Throughout
1.3 September 2022	Formatting changes Updated logo Updated ‘Sources of general information’	Throughout Front cover Appendix 2

Contents

Introduction

This assessment relates to the unit in the Qualification handbook. The assessment can be achieved at pass only. If any task is not yet met the candidate is unsuccessful.

General guidance on the requirements for assessment can be found in the Assessor Guidance document available on the City & Guilds web site **www.nptc.org.uk**

The assessor must complete the Practical Table mark sheet for each candidate which should be kept by the assessor for a minimum period of twelve months.

Record of assessment (ROA)
A prepopulated record of assessment must be completed by the assessor following an assessment. The number of outcomes is listed above, these must be ticked into the relevant met or not met sections of the ROA.

ARAS Forms
An Assessment Result Advice Slip (ARAS form) must be completed by the assessor following an assessment. The ARAS is not a certificate but, based on the evidence of the candidate's performance, is a recommendation to City & Guilds that the candidate is either met or not met the assessment criteria. All feedback is to be recorded by the assessor on the feedback section of the ARAS form.

Assessment Time
The expected assessment time for this qualification is 2 – 4 hours.

Site/workshop requirements:
Trees of sufficient size and form to enable all assessment criteria to be assessed
Branches of a minimum diameter of 100mm
Vertical timber with a minimum diameter of 200mm.

Equipment/Machinery:
LOLER compliant Mobile Elevated Work Platform (MEWP) if used
LOLER compliant climbing equipment with documented evidence, for the Candidate and the Assessor
LOLER compliant rigging equipment
Top handled or rear handled Chainsaw (max guide bar 15 inch) with maintenance tools
Handsaw
First aid kit

Consumables:
Fuel and chainsaw oil

This is not an open book assessment, however additional technical information may be sought from the relevant manufacturer's operator manuals or any other appropriate training or safety publication.

Practical observation descriptor table

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Activity number and description from check list		Assessment criteria
1.	Identify the hazards, risks and controls associated with the site, task and machine	Identify hazards, risks and controls relevant to the site task and machine
2.	State the emergency procedures relevant to the site	Emergency procedures relevant to the work site
3.	State industry guides and information relevant to aerial tree rigging	Industry guides relevant to aerial tree pruning: • AA Technical Guide 1 Tree climbing and aerial rescue • AA Technical Guide 2 Use of tools in a tree • AA Technical Guide 3 Rigging and dismantling • AA Technical Guide 5 Use of Mobile elevating work platforms in tree work • Evaluation of current rigging and dismantling practices used in arboriculture HSE RR668 • Tree work recommendations BS3998
4.	Perform a tree condition assessment of the tree and work at height assessment prior to commencing the work	Potential hazards that may be encountered may include: • evidence of cavities, decay or decay fungi • deadwood and broken branches • dead or flaking bark • v shaped unions • cracks • nesting insects • the presence of power lines or telephone wires • targets and obstacles underneath the tree
5.	Discuss a working at height assessment	Working at height assessment may include: • can the work be carried out from ground level • the use of a mobile elevating work platform (MEWP) to prevent a fall • The use of suitable equipment minimise the distance and consequence of a fall

6.	State when tree rigging may be required and its limitations	Rigging may be required when: • free fall techniques are not possible • other Limitations may include: • higher competency levels of staff required • potentially time consuming to set up and use • equipment intensive • other
7.	Discuss site zoning in relation to on site preparation	Work site layout factors to consider may include: • work zone: an area where hazards may be encountered • drop zone: an area where it is anticipated materials may fall • exclusion zone: the overall operational area • other
8.	Describe how to select compatible components to make up a rigging system appropriate for the anticipated load	Selection of compatible components may include: • knowledge of loads that equipment may be subject to • consideration of strength loss due to configuration, age and condition • compatibility with any other components • other
9.	Select compatible components to make up the rigging system	Candidate to select components which may include: • rigging blocks • rigging ropes • connectors • slings • strops • lowering devices • redirect pulleys • other
10.	Use and maintain tools, equipment and personal protective equipment (PPE)	Candidate to select compliant PPE and safety clothing for tree climbing and chainsaw use to include: • tree climbing helmet • personal first aid kit • knife with retractable blade or handsaw • chainsaw protective footwear with good grip and ankle support • non- snag clothing • eye protection • hearing protection • chainsaw protective clothing • appropriate chainsaw with lanyard. Candidate to select appropriate compliant climbing equipment

11.	Describe how to select suitable work positions and planned drop zones	Factors to consider when selecting a work position may include: • minimising climbers risk • minimising potential equipment damage • available anchor points • risk assessment • other Factors to consider when selecting an appropriate drop zone may include: • suitable areas • identification of targets • access and egress • other
12.	Describe how to select suitable anchor points for the anticipated load without compromising the workers access position	Suitable anchor points may be selected in terms of: • sufficient size and strength • tree form and condition • work to be completed • anticipated load • obstacles beneath • climbers position and anchor points • planned drop zone • other
13.	Explain how to calculate the mass of the load	Calculated the weight of the section and mass of the load: • Log mass chart (length x diameter = log mass x safety factor x species correction factor)
14.	Explain how to calculate the peak load on the rigging pully	Calculation of the load for the rigging point when lowering timber may include: Rigging point above the load • log mass x 2 = load Rigging point below the load • log mass x 11 = load
15.	Calculate the anticipated loads	Calculate load: • above the load • below the load
16.	Describe how to minimise shock loading in the rigging system	Shock loading may be minimised by: • allowing sections to run • removing smaller sections • placing more rope in the system • reconfigure rigging system • other

17.	Describe methods of adding friction into the rigging system	Methods of adding friction may include: • natural tree structure • rigging bollard • capstan • figure of eight • rigging rings • other
18.	State the considerations for selecting friction devices	Considerations for the selection of friction devices may be: • size/mass of the load • availability of anchor points • safety being compromised • simplicity of operation • potential of equipment damage • other
19.	Explain how to remove tree sections	The basic principles of various rigging techniques may include: Tip tie techniques: • rope attached to tip end of branch Butt tie techniques: • rope attached to butt end of branch Balance/ cradle: • use multiple attachment points to suspend a horizontal load Snatching: • section tied above rigging point Speed line: • after removal of tree section the load is transferred to the speed line to be moved to the designated drop zone Lifting techniques: • during the removal of a tree section the load is lifted by an appropriate lifting device

20.	Describe how, when and where to use	Rigging systems to include: Drift load transfer line: • moving suspended loads from one place to another Spider leg: • used to create a multiple attachment Speedline: • transport a suspended load False anchor points: • to create an artificial anchor Pull/ tag line: • assist the removal of a section
21.	Demonstrate tying of knots that may be used in rigging	Demonstration of the following knots must be demonstrated during the assessment: • timber hitch • cow hitch • running bowline • clove hitch
22.	Use access and positioning methods appropriate to the tree	All anchor points selected taking into consideration: • size, strength and structure • position in relation to the parts of the tree to be accessed • use of equipment to minimise damage to the tree if appropriate Candidate establishes their initial anchor points taking into account: • suitability of the techniques used • accurate installation of equipment • organisation of ropes • safety and position of the anchor points • testing of the anchor points by thorough loading prior to ascent Technique used takes into account: • efficient use of technique chosen • candidate is attached to the tree at all times in accordance with industry good practice • appropriate selection of anchor points • appropriate route taken up the tree • correct use of systems when changing anchor points • thorough load testing of new anchor points • risk of a fall is managed at all times correct use of equipment An appropriate MEWP if applicable is set up and used in accordance with AA technical guide 5 use of mobile elevating work platform

23.	Remove tree sections using suitable rigging and appropriate cuts	Tree sections removed using the following techniques: • tip tie • butt tie • cradle • vertical free fall • vertical lowered section Taking the following points into account: • suitable anchor points for climbing and lowering lines • relative positions of climbing and lowering lines • appropriate equipment selected for the anchor point of the lowering line • use of a craning fork where appropriate • appropriate means for the control of friction employed in the lowering system • manageable sections selected • position and method of attaching rope to the section • use of pull line if appropriate • appropriate safe and secure working position attained • characteristics and properties of the wood considered • correct position, depth and accuracy of cuts • chain brake applied or saw switched off whilst lowering sections • the climber must direct the ground operations • limbs are lowered under control
24.	Dispose of waste in line with work specification	All waste produced from activities is disposed of in line with legislation, good practice and/or site requirements
25.	Communicate appropriately with ground staff	communication between climber and ground staff maintained when appropriate
26.	Applied pruning specification	Pruning specifications executed as per industry good practice and job specification
27.	Used appropriate tools, equipment and personal protective equipment (PPE)	All tools, equipment and personal protective equipment is used in line with industry good practice
28.	Carried out work to minimise environmental damage	It is ensured that any possible environmental damage is minimised at all times
29.	Worked in a way which maintains health and safety and is consistent with relevant legislation and industry good practice	All activities must be completed in a way which protects the operator and those around them

Appendix 1 Practical table

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All criteria must be achieved.

Activity number and description	Achieved
1. Identify the hazards, risks and controls associated with the site, task and machine	
2. State the emergency procedures relevant to the site	
3. State industry guides and information relevant to aerial tree rigging	
4. Perform a tree condition assessment of the tree and work at height assessment prior to commencing the work	
5. Discuss a working at height assessment	
6. State when tree rigging may be required and its limitations	
7. Discuss site zoning in relation to on site preparation	
8. Describe how to select compatible components to make up a rigging system appropriate for the anticipated load	
9. Select compatible components to make up the rigging system	
10. Use and maintain tools, equipment and personal protective equipment (PPE)	
11. Describe how to select suitable work positions and planned drop zones	
12. Describe how to select suitable anchor points for the anticipated load without compromising the workers access position	
13. Explain how to calculate the mass of the load	
14. Explain how to calculate the peak load on the rigging pully	
15. Calculate the anticipated loads	
16. Describe how to minimise shock loading in the rigging system	
17. Describe methods of adding friction into the rigging system	
18. State the considerations for selecting friction devices	
19. Explain how to remove tree sections	
~~20.~~ Describe how, when and where to use	
21. Demonstrate tying of knots that may be used in rigging	
22. Use access and positioning methods appropriate to the tree	
23. Remove tree sections using suitable rigging and appropriate cuts	
24. Dispose of waste in line with work specification	
25. Communicate appropriately with ground staff	
26. Applied pruning specification	
27. Used appropriate tools, equipment and personal protective equipment (PPE)	
28. Carried out work to minimise environmental damage	
29. Worked in a way which maintains health and safety and is consistent with relevant legislation and industry good practice	

Appendix 2 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. To download the documents and to find other useful documents, go to the ***Centre Document Library*** on ***www.cityandguilds.com*** or click on the links below:

Quality Assurance Standards: Centre Handbook
This document is for all approved centres and provides guidance to support their delivery of our qualifications. It includes information on

- Centre quality assurance criteria and monitoring activities
- Administration and assessment systems
- Centre-facing support teams at City & Guilds / ILM
- Centre quality assurance roles and responsibilities.

The Centre Handbook should be used to ensure compliance with the terms and conditions of the Centre Contract.

Quality Assurance Standards: Centre Assessment
This document sets out the minimum common quality assurance requirements for our regulated and non-regulated qualifications that feature centre assessed components. Specific guidance will also be included in relevant qualification handbooks and/or assessment documentation.

It incorporates our expectations for centre internal quality assurance and the external quality assurance methods we use to ensure that assessment standards are met and upheld. It also details the range of sanctions that may be put in place when centres do not comply with our requirements, or actions that will be taken to align centre marking/assessment to required standards. Additionally, it provides detailed guidance on the secure and valid administration of centre-assessments.

Access arrangements - When and how applications need to be made to City & Guilds provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The ***Centre Document Library*** also contains useful information on such things as:

- Conducting examinations
- Registering learners
- Appeals and malpractice

Useful contacts
Please visit the Contact Us section of the City & Guilds website, ***Contact us***

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