Highfield Level 2 Foundation Apprenticeship for FA0004 Hardware, Network and Infrastructure

Assessment Specification

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Assessment Specification

Contents

Please click on the headings below to navigate to the associated section of the Assessment Specification.

Versions:

FA0004 / v1.0

FAHNI v1.1

How to use this Assessment Specification

Welcome to the Highfield Assessment Specification for the Hardware, Network and Infrastructure foundation apprenticeship standard.

Highfield is an independent awarding organisation that has been approved to assess and quality assure the Level 2 Hardware, Network and Infrastructure foundation apprenticeship standard.

The Assessment Specification is designed to outline all you need to know about the assessments for this foundation apprenticeship standard and will also provide an overview of the delivery requirements.

Highfield also offers the Highfield Level 2 Hardware, Network and Infrastructure Foundation Apprenti-kit, a comprehensive learning resource, designed to be used on-programme.

For more information, please go to the Highfield Products website. Please note that the use of this learning resource is not a prerequisite for apprentices undertaking the Hardware, Network and Infrastructure foundation apprenticeship.

Introduction

Standard overview

Software and data operatives are found in organisations large and small in all sectors and within public, private and voluntary organisations. They support the collation, formatting and storage of data. They also validate data checking and identifying errors. They will follow instructions to support elements of software development and testing.

As all organisations use data and software, their work will support the functions of the organisation and individuals working to manage data, develop and or test software. They will carry out fundamental duties, including supporting the storage, retrieval and sharing of data, the manipulation of data by following instructions and testing and or the development of software, all by following guidance and instructions.

Off-the-job training

This foundation apprenticeship requires a minimum 187 hours off-the-job learning. Upon successful completion, the apprentice will be competent in the knowledge, skills and behaviours outlined in this standard. Someone who completes some or all of this content will be part-way through a journey to a more specialist occupation. Taking another apprenticeship after this one is one way of progressing. More information about the main occupations involved can be found via the Skills England website.

Entry requirements

The apprentice must normally be age 16 to 21 at the start of their apprenticeship. Exceptions to this are set out in the Department for Education Apprenticeship Funding Rules.

English and maths qualifications

Apprentices must follow the English and maths formal qualification requirements as set out in the Department for Education Apprenticeship funding rules.

Mandatory qualification

There are no mandatory qualifications or licence to practise requirements for this occupation.

Mapping to occupational standards

Coverage of each knowledge and skill statement must include each and every occupation it is mapped to, unless expressly stated otherwise. For instance, if skill S1 is mapped to occupation 1 and occupation 2, then the range of coverage must include elements of both 1 and 2 so the apprentice benefits from a broad experience. Competence is to the level described by this foundation apprenticeship's knowledge and skills and not the often higher level of the mapped occupations. Coverage will be a blend of on and off-the-job learning. More information can be found within the knowledge and skills coverage document on the Skills England website.

Assessment roadmap

There is no stipulated order of assessment methods. Apprentices may be assessed at appropriate points (or milestones) throughout their foundation apprenticeship. This will be agreed between the apprentice, provider and/or employer.

If the knowledge and skills mapped to AO1 are required to access the workplace, this assessment should happen early in the programme.

Highfield's approach to assessing this standard is:

- knowledge test (AO1 Knowledge statements)
- question and answer (AO1 Skill statements)
- practical assessment – Portfolio of evidence (PoE) (AO2/AO3)

To take the assessments, the apprentice must be registered with Highfield.

If you have any questions regarding these assessment components, please contact your Highfield Customer Engagement team.

Assessor and internal quality assurance (IQA) guidance

Assessors

Assessors for this apprenticeship **must** meet the following:

- have knowledge of the subject. Examples to demonstrate subject knowledge include, but are not limited to:
    - a current CV detailing sector experience
    - an up-to-date record of continuous professional development relevant to the sector
    - holding a qualification at the same level or above as the apprenticeship being assessed

- possess or be working towards a recognised assessor qualification. Examples include, but are not limited to:
    - Level 3 Certificate in Assessing Vocational Achievement
    - A1 Assess Candidate Performance Using a Range of Methods and A2 Assessing Candidates' Performance through Observation
    - D32 Assess Learner Performance and D33 Assess Learner Using Different Sources of Evidence

IQA

Internal quality assurers for this apprenticeship **must** meet the following:

- have knowledge of the subject. Examples to demonstrate subject knowledge include, but are not limited to:
    - a current CV detailing sector experience
    - an up-to-date record of continuous professional development relevant to the sector
    - holding a qualification at the same level or above as the apprenticeship being assessed
- possess or be working towards a recognised internal quality assurance qualification. For example:
    - Level 4 Award in the Internal Quality Assurance of Assessment Processes and Practice (RQF)
    - Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Processes and Practice (RQF)
    - D34 or V1 Verifier Awards

It is **recommended** that IQAs hold an assessing qualification.

Continuing professional development (CPD)

It is recommended that staff assessing and quality assuring this apprenticeship are supported to maintain up-to-date sector knowledge, including best practices and relevant legislative changes. CPD records can provide clear evidence of this practice.

Countersigning

While it is a minimum requirement for centres to have the appropriately qualified workforce in place, it is understood that centres may have new staff who are working towards those requirements. During this period, centres are required to have a robust countersigning strategy in place that supports and validates unqualified assessment and quality assurance decisions until the point where they meet the requirements as detailed above.

Use of artificial intelligence (AI)

Where AI is used as part of the apprentice's day-to-day work and forms part of a project report, presentation or artefact, it should be referenced as such within the work.

Where AI has been used as part of a portfolio, it should be fully referenced within it. AI must not be used to produce the report or portfolio.

Click here to return to contents

Gateway to completion

Gateway to completion requirements

After apprentices have undertaken their assessment, employers and providers will need to complete the gateway to completion confirming the following:

- minimum duration has been met in line with the assessment plan.
- employability skills and behaviours have been suitably demonstrated. The employer is responsible for verifying that each employability skills and behaviour statement has been suitably demonstrated by the apprentice over the course of the programme. EB6 does not need to be confirmed by the employer but should form a key element of the apprentice's off-the-job training package.

The **gateway to completion** must be completed through the Highfield Assessment Hub.

If you require any support completing this section, please contact your customer engagement team at Highfield Assessment.

Click here to return to contents

The Hardware, Network and Infrastructure foundation apprenticeship standard

Below are the assessment outcomes from the assessment plan. Learning and assessment will be based upon the knowledge and skills statements and the associated assessment outcomes are used to assess and grade the apprentice within each assessment method.

(*) Knowledge and skills statements which offer opportunities to develop functional skills English and maths are identified with an asterisk.

<table>
<tr><th colspan="2">AO1 – Health, safety, security and ethical use</th></tr>
<tr><th colspan="2">Knowledge test, question and answer</th></tr>
<tr><th colspan="2">Assessment outcome
Demonstrates understanding of and compliance with organisational processes related to health, safety, security, and the ethical use of emerging technology.</th></tr>
<tr><th>Knowledge</th><th>Amplification</th></tr>
<tr><td>K1 Health, safety and security including organisational policies and procedures.*</td><td>Health
Maintaining wellbeing in the workplace, including:
correct workstation setup
avoiding strain to neck, wrists, eyes and back
being aware of hazards that may affect physical or mental health
Safety
Following practices that prevent accidents or harm, such as:
fire safety rules
safe use of equipment
awareness of risks
escalation and reporting processes
Security
Protecting data, systems and people from harm or misuse, such as:</td></tr>
</table>

	○ physical security: ▪ ID badges ▪ Secure entry ▪ Screen for privacy protection ▪ No phones or bags in the working environment ▪ Bag searches on exit ▪ No printing/limited printing ▪ Safeguarding printed materials including disposal ▪ Colleague whistleblowing ○ digital security: ▪ strong passwords ▪ not sharing logins or passwords ▪ using secure locked files ▪ toxic combination system access assessments ▪ clearing cached data ▪ restricting usage of password management **Organisational policies and procedures** • The specific rules and guidelines set by an employer that explain how health, safety and security must be maintained, linked to the current Health and Safety at Work etc. Act • These are often documented and form part of staff training
K6 Essential **cyber security compliance** including **phishing** and **scams**.	**Cyber security compliance** • Following the rules, policies and good practices set by law and the organisation to protect systems and data, such as: ○ General Data Protection Regulation (GDPR) ○ Acceptable use policies ○ Internal fraud ○ Insider threat ○ Risk assessments and risk management

	○ Denial of service (DOS) ○ Penetration testing ○ Password policy/password management ○ Guidance from National Cyber Security Centre ○ The Computer Misuse Act ○ The Network and Information Systems Regulations **Phishing** • A type of cyber-attack where criminals trick people into giving away information • Typically involves the criminal pretending to be from a trusted source or impersonating someone else, for example, using: ○ fake emails ○ fake text messages ○ fake websites ○ fraudulent calls **Scams** • Wider attempts to deceive people into giving: ○ money ○ personal details ○ access to sensitive information • This can happen through various methods, including: ○ online: ▪ email links ▪ attachments ▪ websites ○ by phone or in-person ○ prompting downloads ○ sharing passkeys

K15 IT security **vulnerabilities**.*	**Vulnerabilities**
	• Weaknesses in systems, software or user behaviour that could be exploited by attackers, such as:
	  ○ outdated software
	  ○ weak passwords
	  ○ unpatched systems
	  ○ weak encryption
	  ○ unvetted VPN:
	  ▪ spyware
	  ▪ adware
	  ▪ malware
	  ○ careless sharing of information
	  ○ risk assessment and risk management
	  ○ remote access control

Skills	**Amplification**

S1 Comply with **health and safety and security requirements**.*	**Health and safety and security requirements**
	• Actions that protect people from accidents or harm, such as:
	  ○ following fire evacuation procedures
	  ○ using equipment safely
	  ○ keeping workspaces hazard-free
	  ○ adhering to the Health and Safety at Work etc. Act
	• Steps that protect systems, data and property, such as:
	  ○ locking computers
	  ○ wearing ID passes
	  ○ reporting suspicious activity
	  ○ safeguarding confidential information, such as GDPR and organisational data/electronic policies and procedures

S8 Safe and ethical use of **emerging technologies**.	**Safe and ethical**
	• Using new technologies in ways that do not cause harm to oneself, others or the organisation
	• Using technology responsibly and fairly
	• GDPR including ethical and responsible use of data
	• Using company-authorised software or platforms
	
	Emerging technologies
	• New or developing tools that bring opportunities but also new risks, such as:
	  ○ artificial intelligence (AI)
	  ○ cloud services
	  ○ virtual reality (VR)
	  ○ robotics and automation:
	  ▪ drones
	  ▪ vehicles
	• Proactively keep knowledge up to date
	• Know how to source information and keep up to date with industry trends

AO2 – Digital systems and infrastructure	
Portfolio of evidence	
Assessment outcome **Demonstrates technical knowledge and skills in the maintenance of digital systems and infrastructure including emerging technologies and sustainable practices.**	
Knowledge	**Amplification**

K2 Digital systems, **infrastructure**, **networks**, **software packages** and **programmes**.	**Digital systems**
	• A digital system uses technology to process and store information. Digital systems refer to any kind of electronic devices or networks that process and store digital information using discrete values (usually represented as zeros and ones). This includes:
	  ○ computers
	  ○ smartphones
	  ○ tablets
	  ○ servers
	  ○ other similar devices
	• Combination of hardware, software and processes that work together to collect, share and store information, including:
	  ○ a company's computer systems
	  ○ cloud platforms
	  ○ databases
	  ○ communication systems
	
	Infrastructure
	• IT infrastructure includes the hardware, software, networks and services that support the delivery of IT services and business operations. This can include:
	  ○ physical hardware
	  ○ network resources

	○ data storage systems • The underlying physical and virtual technology that supports digital systems, such as: ○ servers ○ cabling ○ routers ○ cloud services • It is the 'backbone' that keeps everything connected and running **Networks** • How devices and systems connect and communicate with each other, such as through: ○ local area network (LAN) ○ metropolitan area network (MAN) ○ wide area network (WAN) ○ global area network (GAN) ○ storage area network (SAN) ○ peer-to-peer (P2P) ○ internet connection **Software packages** • Ready-made applications designed for specific-tasks, such as: ○ using Microsoft Office for productivity ○ accounting packages for finance ○ creative applications, such as Adobe **Programmes** • A computer program is a sequence or set of instructions in a programming language for a computer to execute. Individual

	pieces of software designed to carry out particular functions, which may be installed on a computer or accessed online, such as: ○ web browsers ○ code editors ○ scheduling apps
K5 Documentation and **systems**.*	**Documentation** • Documentation ensures consistency, supports training and helps others to understand how to use or maintain systems • Written or digital records that describe processes, tasks or technical information, including: ○ user manuals and system logs ○ installation guides ○ troubleshooting notes **Systems** • The digital tools and platforms used to manage, process or store information, including: ○ operating systems ○ databases ○ cloud platforms ○ specialist software relied upon for day-to-day operations ○ systems are usually supported by documentation to explain how they work
K10 Emerging technologies, for example **automation** or AI in the sector and or occupation.	**Emerging technologies** • New or developing tools that bring opportunities but also new risks, such as: ○ artificial intelligence (AI) ○ cloud services ○ virtual reality (VR) • Proactively keep knowledge up to date

	• Know how to source information and keep up to date with industry trends
	
	Automation
	• The use of technology to perform routine or repetitive tasks with little or no human input, such as:
	  ○ chatbots answering customer queries
	  ○ scripts processing data
	  ○ robotic process automation (RPA) in office systems

K11 The **components of digital infrastructure** and the **relationship between devices**.	**Components of digital infrastructure**
	• The main building blocks that make up a digital system, such as:
	  ○ servers
	  ○ routers
	  ○ switches
	  ○ storage
	  ○ cabling
	  ○ cloud services
	
	Relationship between devices
	• System interoperability refers to the ability of different systems, products or organisations to work together and exchange information effectively
	• How different parts connect and work together, such as how a computer links to a switch, which links to a router and then out to the internet
	• This can include concepts such as:
	  ○ client-server
	  ○ peer-to-peer (P2P)
	  ○ local area versus wide area networks (LAN versus WAN)

K14 Different types of hardware, software, apps and or firmware.	**Different types of hardware, software, apps and or firmware**
	• Hardware refers to the physical parts of a computer or network system, for example:
	  ○ monitors
	  ○ keyboards/mouse
	  ○ printers
	  ○ hard drives
	  ○ routers
	  ○ switches
	• Software refers to the programs and operating systems that run on hardware, for example:
	  ○ Windows
	  ○ Linux
	  ○ MacOS
	  ○ Productivity tools
	  ○ Antivirus
	• Apps (or applications) refer to user-focused software designed for specific tasks, for example:
	  ○ word processors
	  ○ messaging platforms
	  ○ mobile applications
	• Firmware refers to permanent software coded into hardware components to control basic functions, for example:
	  ○ BIOS on a PC
	  ○ Firmware on a router or printer

Skills	**Amplification**
S2 Use of **infrastructure, networks, software, packages or programmes**.*	**Infrastructure, networks, software, packages or programmes** • The underlying physical and virtual technology that supports digital systems, such as: ○ servers

	○ cabling ○ routers ○ cloud services • It is the 'backbone' that keeps everything connected and running • How devices and systems connect and communicate with each other, such as through: ○ local area network (LAN) ○ metropolitan area network (MAN) ○ wide area network (WAN) ○ global area network (GAN) ○ storage area network (SAN) ○ peer-to-peer (P2P) ○ internet connection • Ready-made applications designed for specific-tasks, such as: ○ using Microsoft Office for productivity ○ accounting packages for finance • Individual pieces of software designed to carry out particular functions, which may be installed on a computer or accessed online, such as: ○ web browsers ○ code editors ○ scheduling apps
S5 Apply **sustainability practices** in their role.	**Sustainability practices** • Actions that reduce waste, save energy and support environmentally responsible working, including: ○ minimising printing ○ recycling materials ○ reducing energy consumption ○ using digital tools instead of paper, where possible

	○ optimising software to reduce carbon emissions, improving energy efficiency and minimising resource consumption
S6 Maintain **documentation** and **systems** following organisational process and procedures.*	**Documentation** • Documentation ensures consistency, supports training and helps others to understand how to use or maintain systems • Written or digital records that describe processes, tasks or technical information, including: ○ user manuals and system logs ○ installation guides and troubleshooting notes ○ process flows **Systems** • The digital tools and platforms used to manage, process or store information, including operating systems
S9 Install equipment and **components**.*	**Install equipment** • Set up, connect and configure hardware or software so that it is ready to use, following correct procedures and manufacturer instructions, for example: ○ PCs ○ Laptops ○ Tablets ○ Mobile devices ○ Servers ○ Routers ○ Switches ○ Printers **Components** • Refers to smaller parts that make up the equipment, such as: ○ hard drives

	○ random access memory (RAM) ○ network cards ○ cables (ethernet ○ power supplies
S11 Remove hardware following organisations processes.*	**Remove hardware** • Safely disconnect or take out hardware from a device, system or network without causing damage • Refers to physical parts, such as: ○ Hard drives ○ RAM ○ Network cards ○ Cables ○ Keyboard and mouse ○ Monitors ○ Larger equipment like printers or servers
S12 Install software, apps or firmware to **user requirements**.*	**Install software, apps or firmware** • Load, configure and set up systems to ensure full functionality, including: ○ software – general programs like operating systems, office suites, antivirus tools or enhanced security software ○ apps (applications) – task-specific programmes such as email clients, messaging platforms or productivity tools ○ firmware – embedded software that controls hardware functions, like BIOS updates or router firmware **User requirements** • Refers to what the user needs from the installation, such as: ○ is the correct version installed? ○ is the installation compatible? ○ licensing.

	○ configuration settings. ○ accessibility features. ○ ready for user.

AO3 – Fault diagnosis, solutions and testing	
Portfolio of evidence	
Assessment outcome **Demonstrates technical knowledge and skills in the diagnosis of faults and the production and testing of solutions, working with stakeholders and supporting users.**	
Knowledge	**Amplification**
K3 Roles and responsibilities of **stakeholders**.	**Stakeholders** • Individuals or groups who have an interest in, or are affected by, an organisation's activities • These can be internal (staff, managers or teams) or external (customers, suppliers or regulators) • Development team, product owners and scrum masters
K4 Own role and responsibilities and how they help to achieve the needs of the organisation.	**Own role and responsibilities and how they help** • The specific tasks you are expected to complete • The duties and obligations linked to the role • Understanding the impact of your role and actions on the wider team and organisation • Proactive self-development/personal development plans • Importance of keeping up with industry trends
K7 Function and **operation** of the **stages within the solutions life cycle**.	**Function** • The purpose of each stage in the life cycle, for example, what it is meant to achieve **Operation**

	• How each stage works in practice, including the processes, activities and outputs
	
	Stages within the solutions life cycle
	• The solutions life cycle is the structure process organisations follow to create, deliver and maintain technology solutions to ensure quality and consistency
	• Stages include:
	  ○ planning/requirements gathering – identifying what the solution needs to achieve
	  ○ design – outlining how the solution will meet the requirements
	  ○ development/build – creating or coding the solution
	  ○ testing – checking that the solution works as intended and fixing errors
	  ○ implementation/deployment – putting the solution into use
	  ○ maintenance/support – keeping the solution running, updated and improved over time

K8 User requirements, **needs** and **priorities**.	**User requirements**
	• The features or functions a user expects from a system or solution, often gathered during planning
	
	Needs
	• The essential things users must have for the solution to be useful and effective, such as:
	  ○ accessibility features
	  ○ reliable performance
	  ○ compliance with regulations
	  ○ compatibility with existing software

	Priorities • The ranking of requirements and needs in order of importance, recognising that not everything can be delivered at once • Priorities help decide what should be developed first, such as fixing critical bugs before adding new features • Adhering to the product life cycle (scrum principles)

K9 Essential **solution architecture** and **testing**.*	**Solution architecture**
	• The overall design and structure of a system or application, showing how different components fit and work together, including:
	  ○ hardware
	  ○ software
	  ○ databases
	  ○ networks
	  ○ interfaces
	• It provides a 'blueprint' for how the solution will operate
	
	Testing
	• The process of checking that the solution works as intended, meets requirements and is free from errors or defects, including:
	  ○ functional testing – does it do what it should?
	  ○ performance testing – does it run efficiently?
	  ○ user acceptance testing – does it meet user expectations?

K12 Technical fault diagnosis. **Identify and confirm basic faults** within the system.*	**Technical fault diagnosis** • The process of investigating problems in hardware, software or networks • Uses logical steps and tools to find the root cause • Can apply root cause analysis techniques to identify, fix and prevent issues

	Identify and confirm basic faults
	• Recognise and locate where the problem is happening, for example:
	  ○ device not powering on
	  ○ no network connection
	  ○ software crashing
	  ○ isolating bugs
	• Verify that the suspected fault is real and not caused by user error or temporary issues
	• Often completed by testing, replicating the fault or using diagnostic tools
	• Basic faults are typically common and straightforward issues, such as:
	  ○ loose cables
	  ○ incorrect settings
	  ○ insufficient memory
	  ○ paper jams
	  ○ outdated drivers
	  ○ disconnected Wi-Fi/network

K13 Test parameters, **standard requirements** and **common solutions**.*	**Test parameters**
	• The specific factors checked during testing, such as:
	  ○ device speed and connectivity
	  ○ error messages
	  ○ power supply
	  ○ compatibility
	  ○ security settings
	
	Standard requirements
	• Refers to the expected benchmarks or rules to meet, such as:
	  ○ manufacturer specifications

	○ health and safety standards ○ organisational policies and industry standards **Common solutions** • Typical fixes applied to recurring problems, such as: ○ restarting devices ○ updating software or drivers ○ replacing faulty cables ○ adjusting configuration settings
Skills	**Amplification**
S3 Apply knowledge to resolve issues and support users knowing when and who to escalate to.*	**Apply knowledge to resolve issues** • Using what is known about systems, software or processes to fix problems • Taking practical steps to solve technical or process problems at the right level for your role • Can apply root cause analysis techniques to identify, fix and prevent issues
S4 Test performance and usability.*	**Test performance and usability** • How well the system runs under normal and heavy use, including speed, stability and reliability, for example: ○ does it load quickly and handle multiple users? ○ does it process data without errors? ○ how easy and practical the system is for users, covering factors, such as: ▪ clarity of design ▪ whether tasks can be completed without confusion ○ is it fit for purpose? ○ can discuss different types of testing, such as: ▪ load testing ▪ spike testing

	▪ endurance testing ▪ stress testing ▪ scalability testing
S7 Use **digital technologies** to **support daily work activities**.*	**Digital technologies** • Refers to IT tools and resources, such as: ○ computers ○ tablets ○ mobile devices ○ cloud platforms ○ productivity and collaboration suite of software or application ○ software or applications ○ email ○ shared drives **Support daily work activities** • Enables routine tasks in the role to be completed more effectively, accurately and efficiently by applying the right technology, such as: ○ sending and responding to emails ○ updating records and logging jobs ○ monitoring systems and reporting issues ○ utilising scrum ceremonies to remove roadblocks
S10 Carry out **routine maintenance** and **repair common faults**.*	**Routine maintenance** • Regular checks and servicing to keep equipment and systems working as they should, for example: ○ cleaning hardware ○ updating software ○ backing up data ○ checking cables ○ replacing consumables

	Repair common faults
	• Fix or restore functionality to problems that can occur by taking appropriate action, such as:
	  ○ replacing parts
	  ○ reconfiguring settings
	  ○ reinstalling software
	  ○ applying updates
	• Typical, everyday issues that may need resolving can include:
	  ○ frozen applications
	  ○ slow performance
	  ○ paper jams
	  ○ connectivity problems
	  ○ faulty cables
	  ○ user access errors

Employability skills and behaviours
Behaviours
EB1 Communicate and share information using verbal, non-verbal, written and digital methods.
EB2 Act in a professional manner including good time keeping and conduct.
EB3 Apply new learning and feedback to everyday practice.
EB4 Complete own work tasks and ask for help when needed.
EB5 Work with colleagues to contribute to team outcomes.
EB6 Seek ways to manage own financial, health and wellbeing needs using available resources.
EB7 Overcome challenges and adapt to changes at work.
EB8 Work in line with health, safety and environmental requirements.
Behaviours must be confirmed by the employer and confirmed on the gateway to completion section in the Highfield Assessment Hub. **EB6 does not need to be confirmed by the employer but should form a key element of the apprentice's off-the-job training package.**

Click here to return to contents

Assessing AO1 – knowledge test and question and answer

Knowledge test

The test consists of **20 questions** including multiple-choice questions and will last **60 minutes**. The **pass** mark is **12 out of 20**.

The multiple-choice test may be delivered online or paper-based and should be taken in controlled conditions in line with Highfield's invigilation policy. The test is closed-book which means that the apprentice cannot refer to reference books or materials. The test must be marked by Highfield.

The knowledge test will cover knowledge statements within AO1 as stipulated in this specification.

In each paper, questions will cover each of the knowledge statements, however, not every aspect of every area will be covered in every test.

Question and answer

There will be a minimum of **two questions** asked by an assessor in **30 minutes**.

The question and answer will assess the skill statements within AO1 as stipulated in this specification.

The question and answer may be delivered online or in person and should be taken in controlled conditions in line with Highfield's invigilation policy.

The questions can be asked by the provider and the answers recorded and submitted to Highfield. Alternatively, the questions can be asked by a Highfield Assessor. In both cases the responses will be marked by Highfield. Further guidance can be found in the Highfield Support Pack.

Before the assessment

Employers/providers should:

- brief the apprentice on the areas that will be assessed by the knowledge test and question and answer.
- in readiness for the assessment, set the apprentice a mock knowledge test and question and answer. A mock knowledge test and questions are available to download from the Highfield Assessment website. The mock tests are available as paper-based tests and also on the mock e-assessment system.

Grading the knowledge test and question and answer assessment

Apprentices will be marked against statements included in the tables on the following pages.

- To achieve a **pass**, apprentices must achieve all of the knowledge and skills statements
- **Unsuccessful** apprentices will have not achieved all of the knowledge and skills statements

Knowledge test criteria
K1 Health, safety and security including organisational policies and procedures.*
K6 Essential cyber security compliance including phishing and scams.
K15 IT security vulnerabilities.*

Question and answer criteria
S1 Comply with health and safety and security requirements.*
S8 Safe and ethical use of emerging technologies.

Click here to return to contents

Assessing AO2 and AO3 – portfolio of evidence

Portfolio of evidence

The apprentice must compile a portfolio of evidence that is mapped against the knowledge and skills (KSs) assessed by a portfolio of evidence.

Evidence may be used to demonstrate more than one knowledge and skill as a qualitative approach is suggested as opposed to a quantitative approach.

Evidence sources for the portfolio may include:

- work-based observation
- expert witness testimonies
- annotated photographs
- evidence of ongoing professional development
- reflective accounts, countersigned by a manager

This is not a definitive list and other evidence sources are possible.

The portfolio can include reflective accounts and employer contributions should focus on direct observation of performance (for example, witness statements) rather than opinions.

Expert witness testimonies can be completed where observations cannot be conducted due to:

- logistical and operational barriers
- confidentiality and privacy restrictions
- health and safety concerns

Expert witness testimonies must be completed by an individual with:

- direct knowledge of the subject area
- clear understanding of the assessment criteria

The portfolio must be compiled alongside a Portfolio Matrix. This can be downloaded from our website. The Portfolio Matrix must be fully completed including a declaration by the apprentice to confirm that the portfolio is valid and attributable to the apprentice.

Before the assessment

Employers/providers should:

- ensure the apprentice knows which areas will be assessed (outlined on the following pages)
- ensure the apprentice is aware of evidence permitted to form part of the portfolio of evidence

Grading the portfolio of evidence

Apprentices will be marked against the statements included in the tables on the following pages. The portfolio of evidence can be marked by Highfield or the provider.

- To achieve a **pass**, apprentices must achieve all of the knowledge and skills statements
- **Unsuccessful** apprentices will not have achieved all of the knowledge and skills statements

Portfolio of evidence
To pass, the following must be evidenced.
K2 Digital systems, infrastructure, networks, software packages and programmes.
K3 Roles and responsibilities of stakeholders.
K4 Own role and responsibilities and how they help to achieve the needs of the organisation.
K5 Documentation and systems.*
K7 Function and operation of the stages within the solutions life cycle.
K8 User requirements, needs and priorities.
K9 Essential solution architecture and testing.*
K10 Emerging technologies, for example automation or AI in the sector and or occupation.
K11 The components of digital infrastructure and the relationship between devices.
K12 Technical fault diagnosis. Identify and confirm basic faults within the system.*
K13 Test parameters, standard requirements and common solutions.*
K14 Different types of hardware, software, apps or firmware.
S2 Use of infrastructure, networks, software, packages or programmes.*
S3 Apply knowledge to resolve issues and support users knowing when and who to escalate to.*
S4 Test performance and usability.*

Portfolio of evidence
To pass, the following must be evidenced.
S5 Apply sustainability practices in their role. **S6** Maintain documentation and systems following organisational process and procedures.* **S7** Use digital technologies to support daily work activities.* **S9** Install equipment and components.* **S10** Carry out routine maintenance and repair common faults.* **S11** Remove hardware following organisations processes.* **S12** Install software, apps or firmware to user requirements.*

Click here to return to contents

Grading

The apprenticeship is graded pass or fail.

To achieve a pass, the apprentice is required to pass each of the assessment methods.

The overall grade for the apprentice is determined using the matrix below.

Knowledge test	Question and answer	Portfolio of evidence	Overall grade awarded
Fail any of the assessment methods			**Fail**
Pass	Pass	Pass	**Pass**

Reattempt information

If a reattempt is required for Highfield marked methods, please call the Highfield scheduling team to arrange the reattempt.

If you have any questions, please contact the Highfield customer engagement team or refer to the Highfield Support Pack.

Click here to return to contents