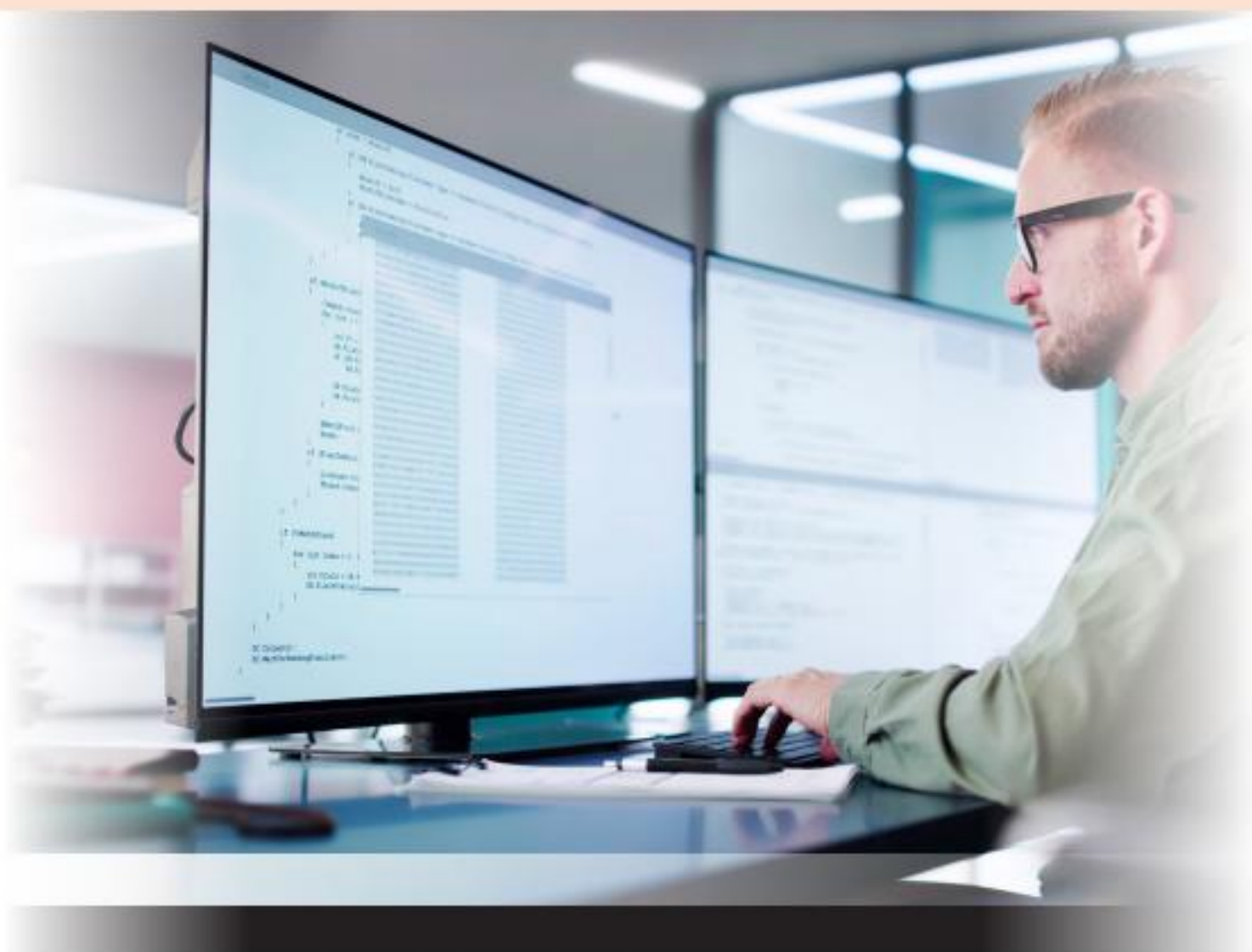




# Highfield Level 2 Foundation Apprenticeship for FA0005 Software and Data

Assessment Specification



# Highfield Level 2 Foundation Apprenticeship for FA0005 Software and Data

## Assessment Specification

### Contents

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#### Versions:

FA0005 / v1.0

FASDT v1.1

# How to use this Assessment Specification

Welcome to the Highfield Assessment Specification for the Software and Data foundation apprenticeship standard.

Highfield is an independent awarding organisation that has been approved to assess and quality assure the Level 2 Software and Data 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 Software and Data 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 Software and Data foundation apprenticeship.

# Introduction

## Standard overview

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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

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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

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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

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

## Mandatory qualification

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

## Mapping to occupational standards

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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

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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

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### 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)

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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.

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# Gateway to completion

## Gateway to completion requirements

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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.

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## The Software and Data 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.

AO1 – Health, safety, security and ethical use	
Knowledge test, question and answer	
Assessment outcome	
Demonstrates understanding of and compliance with organisational processes related to health, safety, security, and the ethical use of emerging technology.	
Knowledge	Amplification
K1 Health, safety and security including organisational policies and procedures.*	<p><b>Health</b></p> <ul style="list-style-type: none"> <li>Maintaining wellbeing in the workplace, including: <ul style="list-style-type: none"> <li>correct workstation setup</li> <li>avoiding strain</li> <li>being aware of hazards that may affect physical or mental health</li> <li>managing sickness absence and presenteeism</li> </ul> </li> </ul> <p><b>Safety</b></p> <ul style="list-style-type: none"> <li>Following practices that prevent accidents or harm, such as: <ul style="list-style-type: none"> <li>fire safety rules</li> <li>safe use of equipment</li> <li>awareness of risks and hazards</li> </ul> </li> </ul> <p><b>Security</b></p> <ul style="list-style-type: none"> <li>Protecting data, systems and people from harm or misuse, such as:</li> </ul>

	<ul style="list-style-type: none"> <li>○ physical security: <ul style="list-style-type: none"> <li>▪ ID badges</li> <li>▪ Secure entry</li> <li>▪ Asset protection</li> <li>▪ Screen for privacy protection</li> <li>▪ No phones or bags in the working environment</li> <li>▪ Bag searches on exit</li> <li>▪ No printing/limited printing</li> <li>▪ Colleague whistleblowing</li> </ul> </li> <li>○ digital security: <ul style="list-style-type: none"> <li>▪ strong passwords and authentication</li> <li>▪ not sharing logins</li> <li>▪ network security</li> <li>▪ toxic combination system access assessments</li> </ul> </li> </ul> <p><b>Organisational policies and procedures</b></p> <ul style="list-style-type: none"> <li>• 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</li> <li>• These are often documented and form part of staff training</li> <li>• Awareness of external legislation and the guiding principles</li> </ul>
<b>K6 Essential cyber security compliance including phishing and scams.</b>	<p><b>Cyber security compliance</b></p> <ul style="list-style-type: none"> <li>• Following the rules, policies and good practices set by law and the organisation to protect systems and data, such as: <ul style="list-style-type: none"> <li>○ General Data Protection Regulation (GDPR)</li> <li>○ Acceptable use policies</li> <li>○ Internal fraud</li> <li>○ Insider threat</li> <li>○ Risk assessments and risk management</li> <li>○ Denial of service (DOS)</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Distributed denial of service (DDoS)</li> <li>○ Penetration testing</li> <li>○ Password policy and management</li> <li>○ Guidance from the National Cyber Security Centre</li> <li>○ ISO 27001</li> </ul> <p><b>Phishing</b></p> <ul style="list-style-type: none"> <li>• A type of cyber-attack where criminals trick people into giving away information</li> <li>• Organisations may decide to send test phishing emails</li> <li>• Typically involves the criminal pretending to be from a trusted source or impersonating someone else, for example: <ul style="list-style-type: none"> <li>○ using fake emails</li> <li>○ using fake text messages</li> </ul> </li> </ul> <p><b>Scams</b></p> <ul style="list-style-type: none"> <li>• Wider attempts to deceive people into giving: <ul style="list-style-type: none"> <li>○ money</li> <li>○ personal details</li> <li>○ access to sensitive information</li> </ul> </li> <li>• This can happen through various methods, including: <ul style="list-style-type: none"> <li>○ online</li> <li>○ by phone</li> <li>○ in-person</li> </ul> </li> </ul>
<b>K12 Essentials of safely storing and retrieving data.*</b>	<p><b>Safely storing and retrieving data</b></p> <ul style="list-style-type: none"> <li>• Ensuring that data is protected from loss, damage or unauthorised access by following security and privacy rules</li> <li>• How and where information is kept, including: <ul style="list-style-type: none"> <li>○ saving files in the right locations</li> <li>○ using secure drives or cloud storage</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ applying backup methods</li> <li>○ consideration of physical data and how this is stored</li> <li>• Accessing stored information in an organised and secure way by using the correct: <ul style="list-style-type: none"> <li>○ file naming</li> <li>○ folder structures</li> <li>○ permissions</li> <li>○ records management policy</li> <li>○ archival policy</li> <li>○ data retention policy</li> <li>○ data deletion policy</li> </ul> </li> </ul>
<b>K17</b> IT security <b>vulnerabilities</b> .*	<b>Vulnerabilities</b> <ul style="list-style-type: none"> <li>• Weaknesses in systems, software or user behaviour that could be exploited by attackers, such as: <ul style="list-style-type: none"> <li>○ outdated software</li> <li>○ weak passwords</li> <li>○ unpatched systems</li> <li>○ careless sharing of information</li> <li>○ risk assessment and management</li> </ul> </li> </ul>
<b>Skills</b>	<b>Amplification</b>
<b>S1</b> Comply with <b>health and safety and security requirements</b> .	<b>Health and safety and security requirements</b> <ul style="list-style-type: none"> <li>• Actions that protect people from accidents or harm, such as: <ul style="list-style-type: none"> <li>○ following fire evacuation procedures</li> <li>○ using equipment safely</li> <li>○ keeping workspaces hazard-free</li> <li>○ ongoing training and education</li> <li>○ the current Health and Safety at Work etc. Act</li> </ul> </li> <li>• Steps that protect systems, data and property, such as: <ul style="list-style-type: none"> <li>○ locking computers</li> <li>○ wearing ID passes</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ reporting suspicious activity</li> <li>○ safeguarding confidential information, for example: <ul style="list-style-type: none"> <li>▪ General Data Protection Regulation (GDPR)</li> <li>▪ Organisational data policies and procedures</li> </ul> </li> </ul>
<b>S8 Safe and ethical use of emerging technologies.*</b>	<p><b>Safe and ethical</b></p> <ul style="list-style-type: none"> <li>• Using new technologies in ways that do not cause harm to oneself, others or the organisation</li> <li>• Using technologies responsibly and fairly</li> <li>• GDPR, including ethical and responsible use of data</li> </ul> <p><b>Emerging technologies</b></p> <ul style="list-style-type: none"> <li>• New or developing tools that bring opportunities but also new risks, such as: <ul style="list-style-type: none"> <li>○ artificial intelligence (AI)</li> <li>○ cloud services</li> <li>○ virtual reality (VR)</li> </ul> </li> <li>• Proactively keeping up-to-date knowledge</li> <li>• Knowing how to source information and keep up to date with industry standards</li> </ul>

<b>AO2 – Data processing and systems</b>	
<b>Portfolio of evidence</b>	
<b>Assessment outcome</b>	
Demonstrates technical knowledge and skills in sustainable practices and use of systems, including emerging technologies, ways of working and roles and responsibilities.	
<b>Knowledge</b>	<b>Amplification</b>
K2 Digital systems, infrastructure, networks, software packages and programmes.*	<p><b>Digital systems</b></p> <ul style="list-style-type: none"> <li>Combination of hardware, software and processes that work together to collect, share and store information, including: <ul style="list-style-type: none"> <li>a company's computer systems</li> <li>cloud platforms</li> <li>databases</li> </ul> </li> </ul> <p><b>Infrastructure</b></p> <ul style="list-style-type: none"> <li>The underlying physical and virtual technology that supports digital systems, such as: <ul style="list-style-type: none"> <li>servers</li> <li>cabling</li> <li>routers</li> <li>cloud services</li> <li>end-user devices</li> <li>security controls</li> </ul> </li> <li>It is the 'backbone' that keeps everything connected and running</li> </ul> <p><b>Networks</b></p> <ul style="list-style-type: none"> <li>How devices and systems connect and communicate with each other, such as through: <ul style="list-style-type: none"> <li>local area networks (LAN)</li> <li>wide area networks (WAN)</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ virtual private networks (VPN)</li> <li>○ the internet and connection</li> </ul> <p><b>Software packages</b></p> <ul style="list-style-type: none"> <li>• Ready-made applications designed for specific-tasks, such as: <ul style="list-style-type: none"> <li>○ using Microsoft Office for productivity</li> <li>○ specialised software, such as accounting packages for finance</li> <li>○ security applications</li> <li>○ other business applications</li> </ul> </li> </ul> <p><b>Programmes</b></p> <ul style="list-style-type: none"> <li>• A computer programme is a sequence or set of instructions in a programming language for a computer to execute</li> <li>• Individual pieces of software designed to carry out particular functions, which may be installed on a computer or accessed online, such as: <ul style="list-style-type: none"> <li>○ web browsers</li> <li>○ code editors</li> <li>○ scheduling apps</li> </ul> </li> </ul>
<b>K4 Own role and responsibilities and how they help</b> to achieve the needs of the organisation.	<p><b>Own role and responsibilities and how they help</b></p> <ul style="list-style-type: none"> <li>• The specific tasks you are expected to complete</li> <li>• The duties and obligations linked to the role</li> <li>• Understanding the impact of your role and actions on the wider team and organisation</li> <li>• Proactive self-development/personal development plans</li> <li>• Importance of keeping up with industry trends</li> </ul>
<b>K5 Documentation and systems.*</b>	<p><b>Documentation</b></p> <ul style="list-style-type: none"> <li>• Documentation ensures consistency, supports training and helps others to understand how to use or maintain systems</li> </ul>

	<ul style="list-style-type: none"> <li>• Written or digital records that describe processes, tasks or technical information, including: <ul style="list-style-type: none"> <li>○ user manuals and system logs</li> <li>○ installation guides</li> <li>○ troubleshooting notes</li> <li>○ data dictionaries</li> </ul> </li> </ul> <p><b>Systems</b></p> <ul style="list-style-type: none"> <li>• The digital tools and platforms used to manage, process or store information, including: <ul style="list-style-type: none"> <li>○ operating systems</li> <li>○ databases</li> <li>○ cloud platforms</li> <li>○ specialist software relied upon for day-to-day operations</li> </ul> </li> <li>• Systems are usually supported by documentation to explain how they work</li> <li>• Interoperability – how systems operate together</li> </ul>
<b>K10</b> Emerging technologies: <b>automation</b> or AI in the sector and or occupation.*	<p><b>Automation</b></p> <ul style="list-style-type: none"> <li>• The use of technology to perform routine or repetitive tasks with little or no human input, such as: <ul style="list-style-type: none"> <li>○ chatbots answering customer queries</li> <li>○ scripts processing data</li> <li>○ robotic process automation (RPA) in office systems</li> </ul> </li> </ul>
<b>K11</b> Identify <b>types and sources of data</b> .*	<p><b>Types and sources of data</b></p> <ul style="list-style-type: none"> <li>• Types of data include: <ul style="list-style-type: none"> <li>○ structured – organised into clear formats like databases and spreadsheets</li> <li>○ unstructured – free text, images, videos or emails</li> <li>○ semi-structured – containing some organisational properties but not a rigid, pre-defined format</li> </ul> </li> </ul>



	<ul style="list-style-type: none"> <li>○ quantitative – numbers or measurements</li> <li>○ qualitative – opinions or descriptions</li> <li>• Sources of data refers to the origins of information and can be: <ul style="list-style-type: none"> <li>○ internal – generated within an organisation, such as sales figures, staff records or operational logs</li> <li>○ external – coming from outside, such as customer feedback, social media, government statistics or third-party providers</li> </ul> </li> </ul>
<b>K13</b> Principles of <b>data extraction, validations, formatting, collating</b> and <b>anonymising</b> .*	<p><b>Data extraction</b></p> <ul style="list-style-type: none"> <li>• The process of retrieving data from different sources to make it available for analysis or reporting, such as: <ul style="list-style-type: none"> <li>○ databases</li> <li>○ spreadsheets</li> <li>○ external systems</li> <li>○ dashboard software</li> </ul> </li> </ul> <p><b>Validation</b></p> <ul style="list-style-type: none"> <li>• Checking that data is accurate, complete and reliable, such as: <ul style="list-style-type: none"> <li>○ ensuring dates are in the correct format</li> <li>○ fields are not left blank</li> <li>○ values fall within expected ranges</li> <li>○ identifying duplicate data</li> </ul> </li> </ul> <p><b>Formatting</b></p> <ul style="list-style-type: none"> <li>• Adjusting data into a consistent structure or style so it can be easily read, processed or compared</li> <li>• Achieving a standardised format</li> </ul> <p><b>Collating</b></p>

	<ul style="list-style-type: none"> <li>Bringing together data from multiple sources into a single, organised view, such as combining survey results from different regions into one dataset</li> </ul> <p><b>Anonymising</b></p> <ul style="list-style-type: none"> <li>Removing or disguising personal or sensitive details in data so that individuals cannot be identified, often to comply with data protection laws – obfuscation and/or pseudonymisation</li> </ul>
<b>K14</b> Fundamentals of <b>data presentation</b> .*	<p><b>Data presentation</b></p> <ul style="list-style-type: none"> <li>The methods, tools and techniques used to share data in a way that is understandable and meaningful to others</li> <li>Choosing the most appropriate format for the audience, including: <ul style="list-style-type: none"> <li>tables – for showing exact figures in a structured way</li> <li>charts and graphs – bar charts, line graphs and pie charts highlight patterns, comparisons or trends</li> <li>dashboard – visual summaries that combine multiple charts and metrics for quick insights</li> <li>reports and summaries – written or digital documents that explain the data and provide context</li> <li>infographics – combining graphics with concise text to simplify complex subjects and make information more engaging and shareable</li> </ul> </li> </ul>
<b>Skills</b>	<b>Amplification</b>
<b>S2</b> Use of <b>infrastructure, networks, software, packages or programmes</b> .*	<p><b>Infrastructure, networks, software, packages or programmes</b></p> <ul style="list-style-type: none"> <li>The underlying physical and virtual technology that supports digital systems, such as: <ul style="list-style-type: none"> <li>servers</li> <li>cabling</li> <li>routers</li> <li>cloud services</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ end-user devices</li> <li>○ security controls</li> <li>• It is the 'backbone' that keeps everything connected and running</li> <li>• How devices and systems connect and communicate with each other, such as through: <ul style="list-style-type: none"> <li>○ local area networks (LAN)</li> <li>○ wide area networks (WAN)</li> <li>○ virtual private networks (VPN)</li> <li>○ the internet</li> </ul> </li> <li>• Ready-made applications designed for specific-tasks, such as: <ul style="list-style-type: none"> <li>○ using Microsoft Office for productivity</li> <li>○ specialised software, such as accounting packages for finance</li> </ul> </li> <li>• A computer programme is a sequence or set of instructions in a programming language for a computer to execute.</li> <li>• Individual pieces of software designed to carry out particular functions, which may be installed on a computer or accessed online, such as: <ul style="list-style-type: none"> <li>○ web browsers</li> <li>○ code editors</li> <li>○ scheduling apps</li> </ul> </li> </ul>
<b>S5 Apply sustainability practices</b> in their role.	<p><b>Sustainability practices</b></p> <ul style="list-style-type: none"> <li>• Actions that reduce waste, save energy and support environmentally responsible working, including: <ul style="list-style-type: none"> <li>○ minimising printing and reducing energy consumption</li> <li>○ recycling materials</li> <li>○ using digital tools instead of paper where possible</li> <li>○ optimising software to reduce carbon emissions, improve energy efficiency and minimise resource consumption</li> <li>○ following protocols for efficient data storage</li> </ul> </li> </ul>

<p><b>S6</b> Maintain <b>documentation, systems</b> and follow organisational process and procedures.*</p>	<p><b>Documentation</b></p> <ul style="list-style-type: none"> <li>• Documentation ensures consistency, supports training and helps others to understand how to use or maintain systems</li> <li>• Written or digital records or software development applications that describe processes, tasks or technical information, including: <ul style="list-style-type: none"> <li>○ User manuals and system logs</li> <li>○ Installation guides</li> <li>○ Troubleshooting notes</li> <li>○ Data dictionaries</li> <li>○ Confluence</li> <li>○ Jira</li> </ul> </li> </ul> <p><b>Systems</b></p> <ul style="list-style-type: none"> <li>• The digital tools and platforms used to manage, process or store information, including: <ul style="list-style-type: none"> <li>○ operating systems</li> </ul> </li> </ul>
<p><b>S7</b> Use <b>digital technologies</b> to support daily work activities.*</p>	<p><b>Digital technologies</b></p> <ul style="list-style-type: none"> <li>• A broad range of tools and platforms such as: <ul style="list-style-type: none"> <li>○ email</li> <li>○ word processors</li> <li>○ spreadsheets</li> <li>○ databases</li> <li>○ communication apps such as Teams</li> <li>○ cloud services</li> <li>○ data modelling tools</li> <li>○ bespoke applications for software development, such as: <ul style="list-style-type: none"> <li>▪ GitHub</li> <li>▪ Azura</li> <li>▪ Data analysis software, such as PowerBI</li> </ul> </li> </ul> </li> </ul>

<p><b>S9 Format, present and save data.*</b></p>	<p><b>Format</b></p> <ul style="list-style-type: none"> <li>Adjusting data into a clear, consistent and usable structure and can include: <ul style="list-style-type: none"> <li>applying number or date formats</li> <li>using headings</li> <li>standardising layouts so data is easy to read and analyse</li> </ul> </li> </ul> <p><b>Present</b></p> <ul style="list-style-type: none"> <li>Sharing data in a way that makes sense to others, such as creating tables, graphs, reports or dashboards</li> <li>The goal is to communicate information effectively to the intended audience</li> </ul> <p><b>Save</b></p> <ul style="list-style-type: none"> <li>Storing data securely and in the correct format, following organisational conventions, including: <ul style="list-style-type: none"> <li>using meaningful file names</li> <li>saving in the correct folders or drives</li> <li>backing up work</li> <li>applying security measures such as access permissions</li> </ul> </li> </ul>
<p><b>S10 Support to store, retrieve and communicate data.*</b></p>	<p><b>Store</b></p> <ul style="list-style-type: none"> <li>Placing data in secure and organised locations, whether digitally or physically</li> <li>Using correct file naming, formatting and folder structures</li> </ul> <p><b>Retrieve</b></p> <ul style="list-style-type: none"> <li>Accessing and locating stored data quickly and accurately, ensuring permissions are followed and information is used appropriately</li> </ul> <p><b>Communicate</b></p>

	<ul style="list-style-type: none"> <li>• Sharing data with others in a clear, accurate and secure way</li> <li>• This can happen through reports, dashboard, presentations or digital platforms</li> </ul>
<b>S11 Review</b> data sets to ensure accuracy.*	<b>Review</b> <ul style="list-style-type: none"> <li>• Checking data carefully to spot errors, inconsistencies or missing information</li> <li>• Making sure data is correct, complete and up to date</li> <li>• Data quality routines and data remediation activities</li> <li>• Maintaining consistency and reliability with data</li> </ul>

A03 – Software development and user need	
Portfolio of evidence	
Assessment outcome	
Demonstrates technical knowledge and skills in software development, including supporting users and working with stakeholders.	
Knowledge	Amplification
K3 Roles and responsibilities of stakeholders.	<b>Stakeholders</b> <ul style="list-style-type: none"> <li>• Individuals or groups who have an interest in, or are affected by, an organisation's activities</li> <li>• These can be internal (staff, managers or teams) or external (customers, suppliers or regulators)</li> <li>• Understanding their different levels of stake in the business</li> </ul>
K7 Function and operation of the stages within the solutions life cycle.*	<b>Function</b> <ul style="list-style-type: none"> <li>• Define the purpose of the solution and ensure it's feasible</li> </ul> <b>Operation</b> <ul style="list-style-type: none"> <li>• Identify the problem or opportunity</li> <li>• Assess costs, benefits, risks and resources</li> </ul> <b>Stages within the solutions life cycle</b> <ul style="list-style-type: none"> <li>• The solutions life cycle is the structure process organisations follow to create, deliver and maintain technology solutions to ensure quality and consistency</li> <li>• Stages include: <ul style="list-style-type: none"> <li>○ planning/requirements gathering – identifying what the solution needs to achieve</li> <li>○ design – outlining how the solution will meet the requirements</li> <li>○ development/build – creating or coding the solution</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ testing – checking that the solution works as intended and fixing errors</li> <li>○ implementation/deployment – putting the solution into use</li> <li>○ maintenance/support – keeping the solution running, updated and improved over time</li> </ul>
<b>K8 User requirements, needs and priorities.</b>	<p><b>User requirements</b></p> <ul style="list-style-type: none"> <li>• The features or functions a user expects from a system or solution, often gathered during planning.</li> <li>• Understanding the difference between functional and non-functional requirements.</li> <li>• A use case is a structured description of a system's behaviour as it responds to requests from external actors, aiming to achieve a specific goal. The term is also used outside software/systems engineering to describe how something can be used.</li> </ul> <p><b>Needs</b></p> <ul style="list-style-type: none"> <li>• Ensuring the solution addresses the underlying problems, goals and motivations</li> <li>• The essential things users must have for the solution to be useful and effective, such as: <ul style="list-style-type: none"> <li>○ accessibility features</li> <li>○ reliable performance</li> <li>○ compliance with regulations</li> </ul> </li> </ul> <p><b>Priorities</b></p> <ul style="list-style-type: none"> <li>• The ranking of requirements and needs in order of importance, recognising that not everything can be delivered at once</li> <li>• Priorities help decide what should be developed first, such as fixing critical bugs before adding new features</li> </ul>



<p><b>K9 Essential solution architecture and testing.*</b></p>	<p><b>Solution architecture</b></p> <ul style="list-style-type: none"> <li>• The overall design and structure of a system or application, showing how different components fit and work together, including: <ul style="list-style-type: none"> <li>○ hardware</li> <li>○ software</li> <li>○ databases</li> <li>○ networks</li> <li>○ interfaces</li> <li>○ integration</li> <li>○ security</li> </ul> </li> <li>• It provides a ‘blueprint’ for how the solution will operate</li> </ul> <p><b>Testing</b></p> <ul style="list-style-type: none"> <li>• The process of checking that the solution works as intended, meets requirements and is free from errors or defects, including: <ul style="list-style-type: none"> <li>○ functional testing – does it do what it should?</li> <li>○ performance testing – does it run efficiently?</li> <li>○ user acceptance testing – does it meet user expectations?</li> </ul> </li> </ul>
<p><b>K15 Essentials of the software development cycle and how it connects with the user experience.*</b></p>	<p><b>Software development cycle</b></p> <ul style="list-style-type: none"> <li>• The structured process of creating software, typically involving stages such as planning, designing, coding, testing, deploying and maintaining</li> <li>• It ensures software is built in an organised and efficient way</li> </ul> <p><b>How it connects with the user experience</b></p> <ul style="list-style-type: none"> <li>• How the end user feels when interacting with the software, including ease of use, accessibility, efficiency and overall satisfaction</li> <li>• Every stage of the development cycle impacts user experience:</li> </ul>

	<ul style="list-style-type: none"> <li>○ planning – gathering user needs and expectations</li> <li>○ design – creating interfaces that are simple and intuitive</li> <li>○ coding – building reliable and responsive features</li> <li>○ testing – checking that the software works for users in real scenarios</li> <li>○ maintenance – updating and improving the system to keep the experience positive</li> </ul>
<b>K16 Software testing frameworks.*</b>	<p><b>Software testing frameworks</b></p> <ul style="list-style-type: none"> <li>• Frameworks help ensure testing is systematic, repeatable and aligned with development practices. Examples include: <ul style="list-style-type: none"> <li>○ unit testing frameworks – for testing small pieces of code individually</li> <li>○ automation frameworks – for running repeatable tests automatically across different environments</li> <li>○ behaviour-driven development (BDD) frameworks – for testing software from the user’s perspective, using natural language descriptions</li> </ul> </li> <li>• Software testing methodologies are strategies and approaches used to ensure that the software application meets the client's expectations and performs as intended.</li> <li>• These methodologies encompass various testing types, including functional and non-functional testing, to validate the Application Under Test (AUT).</li> </ul>
<b>Skills</b>	<b>Amplification</b>
<b>S3 Apply knowledge of solutions to resolve issues</b> and support users knowing when and who to escalate to.*	<p><b>Apply knowledge of solutions to resolve issues</b></p> <ul style="list-style-type: none"> <li>• Using what is known about systems, software or processes to fix problems</li> <li>• Taking practical steps to solve technical or process problems at the right level for your role</li> </ul>

	<ul style="list-style-type: none"> <li>Escalating to the appropriate person if issues cannot be resolved without support</li> </ul>
<b>S4 Test performance and usability.*</b>	<b>Test performance and usability</b> <ul style="list-style-type: none"> <li>How well the system runs under normal and heavy use, including speed, stability and reliability, for example: <ul style="list-style-type: none"> <li>does it load quickly and handle multiple users?</li> <li>does it process data without errors?</li> </ul> </li> <li>How easy and practical the system is for users, covering factors such as clarity of designed and whether tasks can be completed without confusion</li> </ul>
<b>S12 Write or source simple code for software requirements.*</b>	<b>Write or source simple code</b> <ul style="list-style-type: none"> <li>Creating short sections of code yourself or finding and adapting existing code</li> <li>Simple code is straightforward instructions that perform basic functions without advanced or complex logic</li> </ul>
<b>S13 Test simple code.*</b>	<b>Test simple code</b> <ul style="list-style-type: none"> <li>Running and checking code to make sure it behaves as expected and produces the correct outputs, matching original requirements</li> <li>Checking that the code handles invalid inputs sensibly</li> </ul>

## 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.**

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## Assessing AO1 – knowledge test and question and answer

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### 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.
- K12** Essentials of safely storing and retrieving data.\*
- K17** IT security vulnerabilities.\*

### Question and answer criteria

- S1** Comply with health and safety and security requirements.
- S8** Safe and ethical use of emerging technologies.\*

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## Assessing AO2 and AO3 – portfolio of evidence

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### 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
<b>To pass, the following must be evidenced.</b>
<b>K2</b> Digital systems, infrastructure, networks, software packages and programmes.*
<b>K3</b> Roles and responsibilities of stakeholders.
<b>K4</b> Own role and responsibilities and how they help to achieve the needs of the organisation.
<b>K5</b> Documentation and systems.*
<b>K7</b> Function and operation of the stages within the solutions life cycle.*
<b>K8</b> User requirements, needs and priorities.
<b>K9</b> Essential solution architecture and testing.*
<b>K10</b> Emerging technologies: automation or AI in the sector and or occupation.*
<b>K11</b> Identify types and sources of data.*
<b>K13</b> Principles of data extraction, validations, formatting, collating and anonymising.*
<b>K14</b> Fundamentals of data presentation.*
<b>K15</b> Essentials of the software development cycle and how it connects with the user experience.*
<b>K16</b> Software testing frameworks.*
<b>S2</b> Use of infrastructure, networks, software, packages or programmes.*
<b>S3</b> Apply knowledge of solutions to resolve issues and support users knowing when and who to escalate to.*



## Portfolio of evidence

### To pass, the following must be evidenced.

- S4** Test performance and usability.\*
- S5** Apply sustainability practices in their role.
- S6** Maintain documentation, systems and follow organisational process and procedures.\*
- S7** Use digital technologies to support daily work activities.\*
- S9** Format, present and save data.\*
- S10** Support to store, retrieve and communicate data.\*
- S11** Review data sets to ensure accuracy.\*
- S12** Write or source simple code for software requirements.\*
- S13** Test simple code.\*

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## Grading

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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

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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.

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