

Digital Skills and Characteristics Framework

A guide for Trailblazer Groups and Route Panels

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Introduction

The Institute for Apprenticeships and Technical Education (IfATE) and its digital route panel recognise that digital knowledge and skills are fundamental to occupations across all sectors.

Together, we have co-produced this guide. It is for employers who are developing new and revised occupational standards. It is designed to support the inclusion of digital content across occupational standards, at all levels. The guide is also aimed at IfATE's route panels who will be approving these standards.

Most occupations now have some digital aspect to them. Trailblazer groups developing occupational standards will be able to refer and use this guidance. It will help with identifying digital skills that are relevant for each occupation. It will also help to support digital knowledge and skills in the next generation of employees.

The digital characteristics highlighted in this framework are important skills for the economy. Therefore, trailblazer groups should consider which of these may be relevant to their occupation. They should then be adapted into KSB statements to reflect the occupation and level of the standard.

In the past 20 years there has been a tectonic shift in how we engage with technology. It's changed how we communicate and how we consume; how we work and how we create. We are living in a digital society – but today, in the UK, too many people are still not able to take part. The latest research tells us 11.8 million people of working age are still without the fundamental digital skills for life and work. This represents 36% of the UK workforce. These numbers make it clear. Despite technology reaching into so much of how we live and work, not everyone is picking up the digital basics. Not everyone is keeping up with technology. Therefore, it is imperative that digital knowledge and skills are covered in new and revised standards.

This framework will support this endeavour. It builds on the

- [Essential Digital Skills Framework for citizens](#)
- [Essential Digital Skills Framework for work](#)

This defines the skills needed to benefit from and contribute to the digital world of today and the future. It also links to the Government's [National Standards for Essential Digital Skills](#). This articulates the digital skills needed for work and life across entry and Level 1 skill levels.

The digital route panel have looked beyond the foundation digital skills required by citizens. They have identified a set of digital characteristics in an occupational context.

These can be applied across various occupational levels for an apprenticeship (i.e. Levels 2 – 7).

This document sets out specific digital characteristics under:

- **Problem Solving** – Find or develop solutions to problems. Using data, analytics, digital tools and online services.
- **Digital collaboration and communication** - Using digital tools to work flexibly with a range of customers.
- **Digital Transactions** - The skills required to buy and sell goods and services. Administer business transactions online. Understand the purpose and usage of digital business systems.
- **Organisational security** - The knowledge and skills required to mitigate against organisational threats.
- **Handling data securely** - The knowledge and skills required to reduce the risks of data security incidents. Complying with current legislation and organisational policy.

It is important to note that all occupations are different. The digital requirements for each occupation will therefore vary. In most cases - the level of digital skills required for an occupation outside the digital sector will not be at the same level as the apprenticeship. Equally, the level of digital skills would not necessarily be higher in a higher-level apprenticeship. For example:

A L6 Cyber Security Technical Professional will be proficient when addressing organisational threats. They will apply secure programming principles and design patterns to address security issues. Yet, a L6 Interior Designer setting up their own business may only need an understanding of organisational threats. But also knowing when to seek qualified professional cyber security expertise.

This guidance gives broad characteristics. They should be considered appropriately to fit occupational and sector needs. So, a degree of flexibility is to be expected when using this guidance.

For further advice on any aspects of this guide please get in touch with the relevant product manager or route manager. They will be able to connect you with the digital route panel.

Digital characteristics

The majority of digital characteristics across this framework could be applied across each apprenticeship level (i.e. levels 2 – 7). However, we have identified a small number which we do not believe would be relevant to a level 2 occupation (these are denoted these with an asterisk *)

A. Problem solving

Problem solving is a requisite of most occupations. Digital tools and data can be vital to finding solutions and resolving problems. The following characteristics should be considered in occupations where problem solving is required.

Please note that the Office for AI and the Department for Science, Innovation and Technology in collaboration with InnovateUK and other partners will later this year be publishing further detail on the skills needed to best use AI at work.

Please consider which of the following can adapted into knowledge, skills or behaviour statements.

| | Characteristics |
|---|--|
| 1 | Self-triaging basic digital technology problems. Recognising symptoms, carrying out basic fault finding and problem solving using digital tools (e.g. search engines, webchat, online tutorials). |
| 2 | Use digital tools, software and techniques for research, collaboration, project planning and continuous professional development. Recognising the benefits of such tools (e.g. business efficiency, cost/time saving, customer satisfaction, competitive advantage, and security). |
| 3 | * Use interactive data visualisation/manipulation tools and understand how its principles can improve productivity and facilitate more efficient problem-solving and collaboration among teams. |
| 4 | * Know how to source and access appropriate data to solve problems and address business need, ensuring data integrity and being mindful of data bias. Take a systematic approach to data curation and apply data quality controls to ensure the correctness of data-driven findings. |
| 5 | * Identify where data driven technologies can be used (e.g. to automate workplace processes) according to ethical, legal and professional practices. |
| 6 | * Use digital tools to manipulate and analyse data and use it as supporting evidence, prediction or hypothesis when presenting resolutions to problems at work. |
| 7 | Understand that maths is an essential component of problem solving. Remain |

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| | up-to-date on such functional skills but also changes and advancements (for example, technology and ways of working) across the digital sector to provide informed solutions. |
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B. Digital collaboration and communication

Digital collaboration and communication is the process of finding and sharing information and goes beyond just socialising. It is about bringing all resources together so that information can be easily shared and ideas can be easily synthesized.

Please consider which of the following can adapted into knowledge, skills or behaviour statements.

| | Characteristics |
|---|---|
| 1 | Use digital collaboration and communication tools to meet and collaborate with colleagues and customers, recognising the benefits of such technologies and understanding the need for accessibility for all users. |
| 2 | Set up and manage an online digital collaboration platform for professional networking, recruitment, access job opportunities etc. |
| 3 | Use cloud services to share documents and projects for multi-user collaboration. |
| 4 | Successfully choosing when an asynchronous (email, messaging applications, text, social media and multi-media etc.) or a synchronous message (phone call, video calling and conferencing, etc.) is most appropriate to achieve goals. |
| 5 | Understand how digital learning can transform upskilling, the advantages of collaborative learning and how these concepts can create better outcomes for all. |

C. Digital transactions

Digital transactions can be broadly defined as online or automated transactions that take place between people and organisations - without the use of paper and typically using digital business systems.

Please consider which of the following characteristics may be relevant to the occupation and whether to include some of these characteristics in the occupational profile of your apprenticeship standard or develop them further into knowledge, skills, and/or behaviour statements.

| | Characteristics |
|---|--|
| 1 | Set up an account online, using appropriate websites or apps, to securely acquire goods or services. |
| 2 | Use online platforms to access and complete digital records (for example, absence, leave, expenses and password protected payslips and tax related information). |
| 3 | Complete online forms and upload documents when required to complete an online Transaction. |
| 4 | Use different payment systems, such as credit/debit card, direct bank transfer, and phone accounts, to make payments for goods or services online. |
| 5 | Understand the purpose and uses of digital business tools and software to handle, process and manipulate customer data. |

D. Organisational security

Organisational security is defined as a process to create rules and actions to take to protect individuals and organisations against cyber-attacks. While there is no network that is immune to attacks, a stable and efficient network security system is essential to protecting client and organisational data.

Please consider which of the following can adapted into knowledge, skills or behaviour statements.

Please also note that the National Cyber Security Centre provides advice and support for the public, including sole traders and small, medium and large enterprises in how to avoid computer security threats. For more information, please refer to guidance issued on their [website](#).

Employers will also wish to consider [Cyber Essentials](#), a Government backed scheme that seeks to protect organisations of all sizes, against a whole range of the most common cyber-attacks.

| | Characteristics |
|---|---|
| 1 | An understanding of organisational threats e.g. ransomware and insider threats to reduce the risks of becoming a victim of a cyber-attack. |
| 2 | Maintaining appropriate digital skills and capability, with the wider goal of combating cyber-crime and reducing cyber enabled fraud. Knowing how and where to seek advice in relation to cyber security. |
| 3 | Applying updates to devices or software, in a timely manner, set privacy settings |

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| | to improve security and/or enhance functionality. |
| 4 | * Understanding of application and cloud security risks, maintaining appropriate supply chain governance risks. |
| 5 | * An understanding of digital business risk, aligned to organisational risk appetite to maintain appropriate business resilience. Knowing when to seek qualified professional cyber security expertise. |

E. Handling data securely

Handling information and data securely will form a key part of most organisations' policy handbook. In an age where data has become increasingly valuable, poor data handling can cause great harm to individuals and organisations.

Please consider which of the following can adapted into knowledge, skills or behaviour statements.

Please also note that the Information Commissioner's Office (ICO) is the UK's independent body set up to uphold information rights in the public's interest. To find out more about the requirements in the [Data Protection Act](#) as well your data obligations and how to comply, including protecting personal information, and providing access to official information, please refer to guidance and [best-practice issued by the ICO](#).

| | Characteristics |
|---|--|
| 1 | Protect data from unauthorised access, modification, and deletion. This involves ensuring data is protected whilst in use, when stored and disposed. |
| 2 | Understanding the importance of being safe and secure online. Safeguard against hacks through the application of strong and secure passwords and always enabling two-step verification where possible. |
| 3 | Data resilience - restoring important data and systems quicker with practised data recovery. |
| 4 | Management of digital footprint – understanding the impact of online activity and how this can make an individual or organisation vulnerable to a range of security threats. |
| 5 | Understand legal responsibilities and organisational policy (e.g. data storage and retention guidelines, not sharing or using other people's data without their consent), including any regulations applicable to your sector. |
| 6 | An understanding of ethical data-related practices that seek to preserve the trust of users, including the need for fairness, accountability and transparency in line with the principles in the Data Protection Act. |
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| | Emerging technologies – being prepared for the evolution of new disruptive technologies and understanding privacy implications. |
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