

Staff Digital Skills for Working Practices Framework

The *Staff Digital Skills for Working Practices* framework has been developed to articulate the necessary skills for effective use of IT applications and systems at the University of York. The core skills promote shared understanding of staff digital literacy expectations across services and departments, and provide a framework for training and development, as well as job description and recruitment criteria. Working to a shared core skills-set benefits progression, interoperability and transferability of skills - as well as facilitating measurement and mobility.

Rationale

Digital capability is increasingly recognised as a crucial part of the skills-set required for the modern workplace, with 90% of jobs requiring digital skills of some kind.¹ New digital technologies have the potential to enable efficiencies in existing business processes and services, and allow new ways of working to be implemented. However, organisations are not maximising the potential of technology, and almost 50% of employers have a skills gap.² The OECD found that only 5% of the population has high proficiency in problem solving in technology rich environments, while only a third of people can complete medium-complexity tasks.³ This indicates that much of the population, many of whom are in employment, have only basic levels of IT skills (29%)⁴ or none at all. Employers are in a position where they can improve the digital skills levels of their staff, which can result in savings, efficiencies and improved services.

Staff digital skills for working practices

The *Staff digital skills for working practices* are the essential skills that will empower our staff to make the best use of the IT facilities available to them, effectively adapting and adopting new technologies. The skills-set, by necessity, has been designed to be as generic as possible to be applicable to all staff who make use of IT systems, applications and devices. The skills are not designed to be restrictive: specialist roles will require specific IT skills. The expectation is that individuals and managers will articulate criteria to underpin the skills, relating them to specific role requirements and professional development objectives.

The *Staff digital skills for working practices* are informed by the *Essential Digital Skills Framework*⁵ and the *Jisc Digital Capability Framework*⁶. The former defines the digital skills adults need to safely benefit from, participate in and contribute to the digital world: the capabilities required of the 'digital citizen'.⁷ The latter builds on this to explore the digital capabilities required in Higher Education. The *staff digital skills for working practices* have been developed in consultation with staff from across *Information Services* and are informed by the work undertaken for the Staff Digital Literacy Programme.⁸

¹ House of Commons Science and Technology Committee (2016) *Digital skills crisis: second report of session 2016-17*. <https://publications.parliament.uk/pa/cm201617/cmselect/cmsctech/270/270.pdf>

² Ibid.

³ OECD (2016), *Skills Matter: Further Results from the Survey of Adult Skills*. <http://www.oecd.org/skills/piaac/skills-matter-9789264258051-en.htm>

⁴ OECD IT Proficiency Level 1: at this level, tasks require the use of widely available and familiar technology applications, such as email software or a web browser [with] little or no navigation ... [The] problem can be solved regardless of the respondents knowledge of tools and functions (eg sort).

⁵ Department of Education (2018) *Essential Digital Skills Framework*. <https://www.gov.uk/government/publications/essential-digital-skills-framework>

⁶ Jisc (2015) *Digital Capability Framework*. <https://digitalcapability.jisc.ac.uk/what-is-digital-capability/>

⁷ House of Commons (2015) *Mind the gap: The digital divide and digital inclusion*. <https://commonslibrary.parliament.uk/science/technology/mind-the-gap-the-digital-divide-and-digital-inclusion/>

⁸ Overview of Staff Digital Skills Programme: https://docs.google.com/document/d/16ofxsRMsPo6VoNXVY3OOFz2uWeFT3esa2_0r-iBCsrs/

Skills-set themes

The 24 skills are split into the following six themes:

1. IT Essentials
2. Innovation, Adaptability and Problem Solving
3. Ethics and security
4. Personal effectiveness, teamwork and collaboration
5. Information, media and data
6. Creation and communication

IT Essentials		
	Skill	Explanation
1	I configure and customise my digital workspace to ensure I can work effectively	<p>Most applications can be adapted to suit how you work and the task you are doing. Relying on default settings does not optimise user experience. Consider, for example:</p> <ul style="list-style-type: none"> ● Changing taskbar settings ● Modifying browser preferences ● Using alternate views in Gmail, Drive and Calendar ● Adjusting monitor, keyboard and mouse settings
2	I consider the functionality of digital tools before selecting for a particular task	<p>Some users choose an application for familiarity rather than functionality, leading to inefficiency in working practices. It is important to consider things like:</p> <ul style="list-style-type: none"> ● Collaborative needs ● Storage medium ● Structure of data ● Communication methods ● Accessibility <p>It can be helpful to seek advice from others about the best technology for the task and share best practice.</p>
3	I understand different file types and can select applications to edit, optimise and convert them	<p>Applications produce and work with a wide range of file types. All users need to know about the use of common file types and how to convert between them when required. This includes:</p> <ul style="list-style-type: none"> ● 'Office' files for Word, Excel, PowerPoint... ● Google Docs, Sheets, slides... ● Text files, including CSV ● Images (jpeg, png...) ● Video and audio (mp3, mp4, wav...) ● Program files <p>File sizes also vary widely, so users need to know when to expect large file sizes and have some concept of the difference between 1kB, 1MB and 1GB.</p>
4	I understand the principles of file storage and make use of the available options including network and cloud storage	<p>Documents can be stored in several locations. Choice should ideally relate to the nature of the task being undertaken. The file storage options available to University users include:</p> <ul style="list-style-type: none"> ● local drives on devices ● on-site private network storage (M:and H: drives) ● on-site shared network drives ● University Web server ● Google Drive cloud

		It is important to know the characteristics of each of these, and have an appreciation of their capacity.
Innovation, Adaptability and Problem Solving		
	Skill	Explanation
5	I understand that adopting digital technologies present opportunities to improve working practices	<p>In an era of frequent technological change, it is important to change approaches where this brings advantages. Relying on a small set of familiar applications can hinder the ability to solve new problems. Users should:</p> <ul style="list-style-type: none"> ● Migrate to newer versions of Operating Systems and Applications when available ● Keep up to date with features in new versions of frequently-used applications ● Investigate alternative tools for common tasks ● Consider new options for streamlining existing processes
6	I am able to troubleshoot my own digital issues and, if I'm unable to resolve them, know how to find support	<p>The complexity of current systems is such that there will rarely be one obvious cause when things don't work as we expect. Users should be able to take a systematic approach to diagnosing problems and should be prepared to:</p> <ul style="list-style-type: none"> ● Make use of application help systems ● Refer to support pages on the University site ● Undertake a web search to locate sources of advice ● Watch video tutorials to learn or solve problems ● Articulate IT problems to enable resolution eg including screenshots <p>Support is also available through University channels, including the IT Support Office staff.</p>
7	I move confidently from one digital platform to another, taking skills learned in different environments to use in others	<p>Application use is generally based on a range of familiar conventions. Users also develop expectations concerning the functionality of application types, becoming adaptable to change. This may include, for example;</p> <ul style="list-style-type: none"> ● Migrating to a new operating system (Windows, MacOS, Android) ● Using newer application versions after upgrades ● Using several web browsers ● Working in both Word and Docs, Excel and Sheets etc ● Adapting to an alternative reference manager (Paperpile, EndNote, Mendeley...) <p>Being adaptable also enables users to investigate the value of new applications.</p>
8	I take responsibility for recognising gaps in my knowledge and take appropriate actions to improve my IT Skills	<p>Gaps in digital expertise may be areas relevant to our role or development aims that we know little about, or may be new capabilities for systems with which we are already familiar. Keeping up to date with both of these may require users to:</p> <ul style="list-style-type: none"> ● Access University support pages (eg Skills Guides) ● Attend University training sessions ● Subscribe to external forums ● Complete online training courses ● Attend training by external agencies ● Record learning activities to aligned to objectives

		It is also necessary to make time available for this purpose, and not regard it as an encroachment on the 'real' work.
Ethics and security		
	Skill	Explanation
9	I understand the policy and legal issues around data use and storage at the University, and the obligations these place on me	All University Staff have a responsibility to maintain the security and integrity of data, especially personal data, and know how this is relevant to their area of work. Users should: <ul style="list-style-type: none"> • Understand University and departmental Policy, including GDPR, and know where to find documentation • Understand key practical issues affecting information security and be able to locate Information Services advice • Know who to consult when considering using third party systems for University purposes
10	I select appropriate systems for managing confidential data and configure sharing to maintain security	Confidential information should only be available on a 'need to know' basis. If not on centralised systems, care must be taken in choosing where to store it as not all options are easy to configure to maintain security. Users should: <ul style="list-style-type: none"> • Know when personal filestore should/should not be used • Understand who has access to shared filestore • Configure Google Drive folder/file permissions appropriately to maintain security • Ensure confidential data is not visible on screen when equipment is unattended • Understand what activities may grant third party access to University information • Know how to find out with which third parties the University has a contract
11	When working online I recognise actions that could compromise security and follow safe practices to protect myself and the institution	There are frequent instances of attempts to compromise the integrity and security of University and personal information. Users should know how to identify potential threats, and follow safe practices including: <ul style="list-style-type: none"> • Not revealing your password to any other person or organisation (including IT Services) • Basic understanding of encryption and how to create strong passwords • Always checking the page URL before entering your University username and password • Work email should not be used as the contact for personal accounts and services eg Amazon, Netflix • Being alert to the possibility of phishing emails that may look convincing but contain unsafe links • Updating applications and anti-virus software
12	I understand copyright and the legal obligations for myself and the reuse of others' materials	Copyright infringement is serious. Whilst there are 'exceptions' for educational purposes, it is still important to cite and credit 'owners' of images and information. Care must be taken when material originally created for internal use is made publically available. Users should: <ul style="list-style-type: none"> • Know where to obtain copyright guidance, including the permitted limits for educational copying

		<ul style="list-style-type: none"> ● Avoid searching for and using images without regard to copyright ● Know where to locate Creative Commons resources ● Always credit material as specified ● Keep accurate records when copyright material is used with permission
Personal effectiveness, teamwork and collaboration		
	Skill	Explanation
13	I use digital tools to enhance my personal effectiveness	<p>None of us work in isolation, and the choices we make affect our own and our colleagues' ability to work effectively. Users should:</p> <ul style="list-style-type: none"> ● Work by default in shared spaces whenever possible, using technology to control access to resources ● Maintain up-to-date shared calendars ● Make notes and documents that can be accessed flexibly and shared easily (eg with Google Keep, Google documents or online task managers) ● Be aware of the potential for email overload when working in collaboration, and use appropriate alternatives where these are available
14	I understand how newer, cloud-based technologies enable new models for collaboration	<p>Newer online technologies bring new opportunities that were not available in systems based primarily on the physical world. Users need an understanding of the models and principles on which these systems are based, including:</p> <ul style="list-style-type: none"> ● applications designed for the cloud enable effective collaboration independent of time and location ● systems designed for collaboration provide a richer editing history and greater control over access ● newer models provide the basis on which to exploit technological capabilities and transform working practices
15	I utilise collaborative digital tools and applications to enable effective and efficient team work	<p>The University uses G-Suite for its principal collection of collaborative applications and tools. Users should know how to make effective use of these to enable new ways of collaboration and working. This may include:</p> <ul style="list-style-type: none"> ● Making use of online forms to collect data, rather than sending document-based forms ● Sharing online documents for collaboration, rather than sending as attachments ● Making use of collaboration features in synchronous (chat) and asynchronous (comments) modes as appropriate ● Selecting document and data access options that work effectively in a range of locations, both on and off-site
16	I use permissions to control access to resources and enable collaboration	<p>Cloud-based technologies have advantages for collaboration and team work, but it is essential to know how to configure shared spaces in order to control access. Users should:</p>

		<ul style="list-style-type: none"> ● Know what functionality is available to control access and prevent loss or inappropriate exposure of information ● Be able to set Google Drive permissions to manage access and editing capabilities ● Know how to use 'Comment/View' access for collaborative documents ● Understand the options available for collaboration with users without University accounts
Information, media and data		
	Skill	Explanation
17	I effectively gather and make use of appropriate information and data to influence my decisions	<p>Understanding the importance of making decisions based on existing information and policies is essential for ensuring consistency across services and to prevent the 'reinvention of the wheel'. Users should:</p> <ul style="list-style-type: none"> ● Know where essential information about services and process is stored eg wiki, Drive, network storage ● Gather data in forms and spreadsheets to enable meaningful analysis ● Reference information and data sources in their work to support recommendations and decisions
18	I can find information, data and media to support my work and keep up to date with my job	<p>Being able to find relevant and appropriate information, data and media quickly and effectively is essential given the volume of sources available. Users should:</p> <ul style="list-style-type: none"> ● Select appropriate platforms to search for information ● Make use of advanced search features ● Choose appropriate search terms ● Set up alerts to automate updates to information and keep up to date
19	I read information critically and apply appropriate quality criteria	<p>The proliferation of online publishing has made the ability to distinguish information from reliable and unreliable sources essential. Users should be able to:</p> <ul style="list-style-type: none"> ● Identify the provenance of a source of information ● Define criteria on which to judge information sources ● Explain to others their decisions on the reliability of information sources
20	I organise information and electronic resources systematically to facilitate retrieval	<p>Electronic resources are found in many formats. Some may be downloaded in their entirety, some are best accessed using a hyperlink. When managing information and sources, users should:</p> <ul style="list-style-type: none"> ● Make use of reference managers to organise bibliographic information ● Use suitable naming conventions for resources saved in local or cloud storage ● Use collaborative systems for organising information and resources for groups of colleagues ● Make use of search features to locate resources in a range of systems

Creation and communication		
	Skill	Explanation
21	I select an appropriate medium for communication based on intended audience, purpose and content	<p>There are many different ways of communicating information. Users should make use of a range of appropriate media, including:</p> <ul style="list-style-type: none"> ● Text documents suitable for printing ● Documents for use online ● Graphs, infographics and other data visualisation ● Images and multimedia <p>The choice will be influenced by factors such as intended message, the audience demographic - for example academic, general public - and type of information.</p>
22	I present structured data and information, making use of styles and standard formats, to enhance navigation, analysis and accessibility	<p>It is important to make use of application features and models that enable effective use and navigation of the content. Users should ensure that:</p> <ul style="list-style-type: none"> ● All text documents are structured correctly using heading styles ● Web content should be structured using styles and stylesheets ● Data is collected in a way that enables analysis and use (eg Google Forms) ● Data in spreadsheets is designed to enable effective processing (eg filter, sort) ● Images are optimised for printing or online use and include 'Alt text' to aid accessibility
23	I know how to use a range of information communication applications and can exploit their advantages while overcoming their limitations	<p>Effective use of communication involves choosing the appropriate channel for the circumstances. There is an over reliance on email, and users should consider:</p> <ul style="list-style-type: none"> ● Making use of chat tools (eg Slack) for real-time discussion or questions ● Using telephone and video conferencing ● Requesting information via forms rather than email ● Using the 'comment' feature in collaborative documents ● Including document links and other information in Calendar events
24	I effectively manage the information I receive and send to combat information overload and manage workload	<p>Effective management of email and associated information is essential. Users need to be able to manage their inbox, attachments and shared resources to work effectively by:</p> <ul style="list-style-type: none"> ● Making use of different inbox views ● Using labels and filters to organise information ● Sharing documents rather than sending attachments or including critical information in email content ● Considering alternative communications channels (see above) <p>In order to ensure future access, information with a long 'shelf life' is best presented in controlled documents or web pages, rather than included in emails.</p>

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