Scheme of learning

Unit 7: Digital Applications Development

This scheme of learning shows one way of delivering the course content within the required guided learning hours. The teaching and learning activities suggested are designed to complement the delivery guidance in the specification for each unit (where it exists). We recommend that you refer to the specification for definitive information on unit content, assessment criteria and assessment decisions, and suggested assessment activities.

The purpose of this scheme of learning is to provide:

- practical ideas and suggestions for resources to aid delivery and assessment of skills and knowledge across the course, highlighting opportunities to:
    - engage and involve employers
    - embed and develop learners' employability skills and behaviours
    - embed/contextualise maths, English and digital skills
    - plan for formative and summative assessment
    - support learners with revision and preparation for external assessments
    - identify where related teaching and learning content could be taught across units.

Assessment guidance

There are three qualifications in the Digital Technology suite, but regardless of the qualification chosen, the assessment guidance remains the same.

There are two externally assessed units in each qualification: Unit 3 and Unit 5.

- **Unit 3** is assessed through an onscreen task, set and marked by Pearson. Learners will undertake a test containing different types of questions, which is worth 60 marks. The test duration is 75 minutes. The assessment is available on demand.
- **Unit 5** is assessed using a task, set and marked by Pearson. This assessed task will take place during a window timetabled by Pearson and will require 3.5 hours of supervised time. There will be no pre-release material for this task. During the assessment task, learners will be required to respond to a given scenario by applying their understanding of the IT service life cycle and IT systems to plan an IT service solution that meets the needs of a given organisation. Learners will be required to consider the impact of IT solutions on the given organisation and compare these to possible alternatives.

Pearson will inform centres on the context of the scenario used in the task stimulus material via the Pearson website. The learners must complete the assessment under supervised conditions within the timetabled window, and the assessment is subject to a two-day limit once the assessment commences. The timetabled period is four times a year on a quarterly basis.

The first assessments are available in January 2018. Sample Assessment Materials will be available to help centres prepare learners for assessment.

All other units are internally assessed. The summative assessment activity takes place after learners have completed their formative development. The activity should be practical, be set in a realistic scenario and draw on learning from the unit, including the transferable skills. You will need to give learners a set period of time and number of hours to complete the activity.

A suggested structure for summative assessment is shown in the *Unit summary* section of the specification, along with suitable forms of evidence. This is for illustrative purposes only and can therefore be adapted to meet local needs or to assess across units where suitable opportunities exist. The information in the *Links to other units* section will be helpful in identifying opportunities for assessment across units.

Consideration should be given to informing learners of their own responsibilities with regard to assessment, such as avoiding plagiarism and the importance of completing work on time. Therefore, it is necessary to ensure that learners understand when, how and where they will be assessed and that they are reminded of timescales accordingly. Suggested or recommended supporting resources should be communicated to the learners.

Authorised assignment briefs will be made available to centres and tutors should ensure that these are included at appropriate points towards the end of the teaching and learning periods.

In addition, there are different synoptic units in each qualification. The knowledge and understanding acquired by learners as they work through the units in their chosen qualification should be applied to the completion of this final, synoptic task.

Key to table

Look for the following icons to see at a glance where we have suggested opportunities to embed maths/English/digital skills and transferable, work-related skills and attributes. Suggestions and examples mapped to specific content can be found in the fourth column of the table. We have also highlighted opportunities to draw links between unit content and the requirement for the synoptic task (S). These activities will be helpful practice for skills and knowledge that learners will need to demonstrate to complete the final unit.

M = Maths

E = English

D = Digital

W = Workplace/Employer involvement

T = Transferable and personal skills categories

- T Communication
- T Working with others
- T Preparing for work
- T Demonstrate thinking skills and show adaptability
- T Develop practical and technical skills
- T Problem solving
- T Managing information
- T Self-management and development

S = Link to synoptic unit

Resources

Throughout this scheme of learning, you will find suggestions for resources that will enhance the teaching of specific content. Where it has not been possible for copyright reasons to provide a live link, you may wish to search for the resource and bookmark it yourself for easy reference. Each resource is briefly described to enable you to search for it or something similar should the need arise.

All resources mentioned in the scheme of learning are summarised at the end of the document.

Unit title	Unit 7: Digital Applications Development
GLH	60

Links to other units	
Unit no	**Unit content**
2	Exploring Current and Emerging Technologies • B1: Why organisations invest in technology • B2: The types of technology that organisations use B3: How organisations assess if technology has met their needs
10	Organisational Uses for Digital Media Systems • A1: Explore uses of digital media systems • A2: Evaluate the purpose and effectiveness of multichannel solutions • A3: Issues with media content management • B1: Plan for content • B2: Prepare prototypes • B3: Develop a multichannel solution • C1: Test functionality and features • C2: Analytics and impact • C3: User feedback

Unit content	Teaching and learning activities	Links to other units	Skills development opportunities
Learning aim A: Uses of digital applications **A1: Uses of digital applications**		**Suggested teaching time: 5 hours**	
Uses of digital applications	• **Tutor-led discussion:** learners will have come into contact with different types of digital applications – but how many categories can they identify? Lead a brainstorming session to identify as many categories as possible, for example: o communication applications, e.g. email, chat and presenting (PowerPoint®) o task oriented applications, e.g. text processing (Word), working with numbers (Spreadsheets), managing records (Databases), managing projects and workflow (Project) and desktop publishing o graphics applications (i.e. maps, charts and graphs) o entertainment (i.e. computer games) o education (i.e. teaching maths, English, languages, science) o discreet/task specific applications, e.g. CAD/CAM systems, editing applications (such as film, sound and image), music composing applications, simulation applications, managing manufacturing processes and logistics. Learners should then be able to give examples of different applications in each category. • **Small group activity:** learners to investigate the following business activities and identify which digital applications would be used to support these different business situations: o marketing o sales o information o e-commerce o support services o financial o collaboration.	S Unit 10: LAA1–A2 Unit 2: LAB1–B3	T Communication – write, speak and listen to others; use communication for different purposes; communicate in a variety of ways including electronic and social media T Working with others – Setting common goals, listening to others in team, being open-minded, taking on roles and responsibilities T Demonstrate thinking skills and show adaptability – demonstrate a positive attitude; show adaptability when circumstances demand Presentation skills

	They should be able to identify which features of the applications would be used. For example, database, email and word processing would be used to support sales activities (customer records would contain contact information and customers would be contacted via email and or regular mail). This does not have to be an extensive activity, but learners should consider each of these business activities and state how the features of specific digital applications are relevant. They should also be able to list the advantages and disadvantages of the applications in each context. • **Guest speaker:** organise for a guest speaker to talk to learners about how his or her organisation uses combinations of applications for specific business purposes. • **Paired activity:** learners should be placed in pairs and each one should be allocated a digital application. They should then investigate the application they have been allocated in relation to the key considerations listed in the specification. They should create and present a short PowerPoint presentation to the class which discusses the effectiveness of their digital application.		W Employer interaction
A2: Digital content systems		**Suggested teaching time: 5 hours**	
Digital content Systems	• **Individual activity:** learners should spend approximately 15 minutes looking around their classroom for examples of printed and digital media (the internet is an example of digital media but should not be their only example). They should make a list of some of the digital content used in each (e.g. the printed media they find may rely heavily on text. Digital media may rely more heavily on visual media). Identify one medium that they find particularly engaging (this could be printed or digital). • **Tutor-led discussion:** each learner should choose the medium that they find particularly engaging and explain their thoughts as to why, justifying their decision. • **Small group activity:** learners to choose three visual products from the following list and find real examples of their use:	S Unit 10: LAA1–A2 Unit 2: LAB2–B3	T Communication – write, speak and listen to others

	o entertainment and leisure o communication and socialising o education and training o marketing o virtual reality simulations o publishing o customer service/support. Take screen shots of the examples and create an A3 annotated poster. • **Guest speaker:** the guest speaker should ideally come from elsewhere in your centre and should be a learner studying on their second year of a BTEC National in Creative Digital Media Production or a BTEC HNC/D in Graphic Design or Creative Media Production. The speaker should run a design workshop where the learners can explore the design fundamentals (as listed in the specification). This could be a two-lesson mini project with a client brief that the learner has worked on during their studies. (Alternatively, this is also an opportunity for a masterclass). • **Guest speaker:** this speaker should be a representative from a local digital marketing business who uses digital applications and who can give the class live examples of at least two previous campaigns and how they were built to meet the needs of the organisation they belong to. They should be able to identify the intended audience, message, design fundamentals used, budget that was available, deadlines, existing branding that had to be considered and the chosen delivery platform for each business purpose/context. • **Small group activity:** there are so many different combinations of applications and hardware that could be used in projects to create digital media. Learners should develop an understanding of what they should consider in their selection. Begin by asking the learners to form into two groups. The first half should then be asked to form groups of 3 or 4 and allocated 'Applications'.		(T) Demonstrate thinking skills and show adaptability – show adaptability when circumstances demand; show ability to think independently about issues/problems in the workplace (E) Preparation of materials, i.e. table of data or technical guide Employer interaction (T) Working with others – listening to others in team, being open-minded; taking on roles and responsibilities

	The other half should also be asked to form groups of 3 or 4 and allocated 'Hardware'. Both groups will create an extended table of information: o **Group 1: Applications** The output for this group will be an extended table of information. Learners should identify one application in each category. They should: ▪ name the applications (e.g. CorelDRAW®) ▪ identify the category (e.g. vector graphics) ▪ identify the file types it creates (such as .jpeg) ▪ identify the typical file sizes it creates ▪ identify known issues with file transfer and/or download speeds ▪ specify any known compatibility issues. The completed table should contain one example of each of the seven applications categories in the specification. o **Group 2: Hardware** The output for this group will be a technical guide for the single piece of applications chosen by you. Before issuing this task, the tutor will need to select one application (e.g. DreamWeaver® or Adobe Fireworks®) and identify the relevant data for each of the items listed for the Applications group for them to be able to investigate hardware. This group should: ▪ identify the ideal specification for a computer set to run the application identified ▪ identify which devices would be relevant in using the applications ▪ explore the file storage options that would be needed ▪ explain processing speed, graphics capabilities, storage capacity, peripheral needs and monitor capacity. All outputs should be informally presented to the class. • **Small group activity:** learners should collaborate as a group in order to design and create a range of digital media content for different purposes		

	using a range of different applications. For learners who require a 'stretch and challenge activity', ask them to consider the notion that 'many people believe that in the future, there will be fewer print-based products like books'. They should watch the following videos from 'YouTube', and write 500 words about what they think about this statement: o '*Print vs. Digital – A short film by Pen Works Media*' by Pen Works Media o '*Future of Print Media*' by Mladen Marin.		
A3: Content management		**Suggested teaching time: 4 hours**	
Content management	• **Individual activity:** learners to look up the definition of a content management system (CMS). • **Tutor-led discussion:** discuss the definitions identified by learners and collaborate with the class to create a single definition. • **Small group activity:** learners create an A5 leaflet that introduces CMS by explaining: o formatting and editing techniques o interactive elements o optimisation techniques o good practice The leaflet should be presented to the class. • **Paired activity:** in IT and computing, there are many examples of things that are used in a way different than intended. One example is '*WordPress*', a well-known blogging platform that is also being used as a CMS. Tutor can access the *WP Beginner* website by searching for '25 Examples of WordPress Being Used as a CMS' for more information. Tutor to choose one example for each pair and ask them to investigate how WordPress is used as a CMS. Each pair should be able to highlight the CMS elements and techniques that have been used and introduce it to the class.	Unit 10: LAA3	Preparing for work – application of knowledge and understanding in sector-related contexts

	• **Guest speaker:** invite a guest who can set the learners a challenge to create and modify a range of digital components to be used in a CMS. This should include a range of graphical and interactive components, optimisation techniques and good practice. • **Small group activity:** learners should create the components as instructed by the guest speaker. For learners who require a 'stretch and challenge activity', ask them to find out about collaborative CMS.		Employer interaction T Develop practical and technical skills – demonstrate techniques/ skills/processes
Develop skills to produce a digital application for an organisational purpose	**Assignment writing**: learners should produce a report or presentation that identifies the features and functions of a range of digital media applications including hardware and applications considerations. This is best linked to a client-led brief with learners investigating a business context and making at least two recommendations, in terms of both applications and hardware, which would be presented to the client either as a report or as a presentation.		T Communication – write, speak and listen to others T Develop practical and technical skills – demonstrate techniques/ skills/processes T Preparing for work – application of knowledge and understanding in sector-related contexts E Presentation and/or writing skills
Learning aim B: Create a user interface design **B1: Usability**		**Suggested teaching time: 9 hours**	
Usability	• **Tutor-led discussion:** ask learners 'What is usability?' Then search on 'YouTube' for the video 'What is Usability' by Robb Burns. The video differentiates between user experience design (focusing on users' needs, wants and abilities) and usability, which is about how something will eventually be used by a person. Usability therefore also considers usefulness. There are three key areas for discussion: o the four questions of usability (at time point: 1 minute 4 seconds) o how to express the importance of usability design to a client – four	S Unit 10: LAB1–B3	Communication – write, speak and listen to others D Using the internet appropriately

	benefits (at time point: 2 minutes 19 seconds) o the concept of ISO standards (ISO starts at: 2 minutes 40 seconds) o a useful video summary starts at 3 minutes 18 seconds. • **Small group activity:** learners will be required to know how to assess usability and design tests for it. The usability of applications is assessed by considering a range of factors including: o usability and usability characteristics, such as visibility, control, feedback, consistency, flexibility and error prevention o usability in relation to the medium being used by the application, such as website, mobile or desktop o accessibility o user interface (using different features to impact on usability) o how input controls are selected and used o how navigation is achieved o the inclusion and use of informal components. In groups, learners should create a usability checklist. It should include information about the context (as part of the heading) so that each category can be assessed in relation to the audience and the business purpose. The group checklists should be combined into a master checklist that can be used to assess the usability of applications products. An additional free comments box should be added. • **Individual activity:** allocate applications for learners to review using the usability checklist. All learners should consider at least two applications from different categories. • **Class discussion:** learners should share some of the key factors about the usability of the applications allocated. Ideally, more than one learner should assess a product, so that the usability assessments can be compared.		T Working with others – setting common goals; listening to others in team, being open-minded; taking on roles and responsibilities T Problem solving – decision making to find solutions
B2: User experience		**Suggested teaching time: 7 hours**	

User experience	• **Small group activity:** learners to consider the graphical elements of a UI design and the impact of these elements on the user experience. Choose three websites from the list below and review these from a user experience perspective against the following criteria: o simplicity of interface o consistent use of elements o having a purposeful layout o use of colour, texture and styles o how the website measures up in relation to cognitive overload. The websites can be accessed via search engine: o *Blinkee* (US LED lights website) o *Mr. Bottles* (US antique advertising club) o *Jamilin* (US Jami Lin's passions about Feng Shui and interior design) o *Wholesale Meats (Coventry) Ltd.* (online wholesale meat supplier) o *Penny Juice* (US Juice for children) o *Gates N Fences* (US gate and fence supplier). • **Class discussion:** learners should discuss the websites by feeding back their thoughts in relation to the criteria. Due to the user experience being a personal phenomenon, there will be disagreement between different groups on some of aspects. This will give you an opportunity to discuss personal preferences. Learners should now watch the following 'YouTube' video about user experience and how an interface design can impact the user's experience of a brand: 'How User Interface Design Impacts Your Brand Experience' by PixelMEDIA. • **Small group activity:** learners to search for the website '007 museum', and make recommendations for improvements based on the concept of visual appeal. Learners should consider: o visual appeal	S Unit 10: LAB1–B3	T Communication – write, speak and listen to others T Problem solving – identifying issues by being able to examine information; asking questions to clarify information; decision making to find solutions

	o how the interaction has been designed o whether the website more suited to novice or more advanced users o whether the design of the site might impact on the business o how accessible the website is for the full range of users. It is not necessary for learners to understand the written content (which is in Swedish). They simply need to evaluate it for visual appeal against criteria (as listed in the specifications) making recommendations on how it could be improved. If time allows, learners could produce some design drawings to illustrate their recommendations. These recommendations should be informally shared with the class during a class discussion. • **Independent learning activity:** learners to search 'YouTube' for 'Microsoft's Concept of How 2019 Will Look Like – Official Video' that looks at interesting predictions about devices and how we will use them. Learners should write some notes from a personal perspective about whether they are excited by the possibilities or whether they are concerned about potential future developments.		
B3: User interface design		**Suggested teaching time: 7 hours**	
User interface design	• **Tutor-led presentation:** about the principles of UI design. Search 'YouTube' for the video 'User experience tutorial: Fitt's Law' by LinkedIn Learning Solutions. The video explores different navigation tools and the reasons why they are used in certain contexts. Then, present the principles as outlined in the specification, preferably including images of some of the features, or alternatively including a demonstration of some of the key points. • **Individual activity:** using different media to give a richer user experience is not a new concept. However, to use these media with confidence, it is essential that learners can identify different formats. Learners to work individually (or in pairs) to create a table of media formats and their most common uses. They should identify at least 15 different formats across the categories. They could access 'Wikipedia' and search for 'List of file formats', which may be useful. • **Independent learning activity:** search 'YouTube' for the video 'A Brief History of the User interface' by Bulma. It explores how the user interface	S Unit 10: LAB1–B3	T Preparing for work – application of knowledge and understanding in sector-related contexts

	has changed over the years, e.g. how the mouse and the mouse pointer replaced keyboard commands (the days even before the GUI). Learners could also search for 'The Future of the User Interface' for a variety of videos about how current technology will change in the future.		
Create a user interface design for an organisational purpose	• **Assignment writing:** case study or live client brief that requires learners to create a user interface design. Learners should put together a digital portfolio of the intended components, as well as a design document which outlines how they would approach this. Ideally, there should be employer involvement in this assignment if possible.		T Preparing for work – apply knowledge and understanding in straightforward contexts T Developing practical and technical skills – understand the relationship between physical software design, data and human-computer interaction (HCI) design and software development.
Learning aim C: Create and test a digital application for an organisational purpose **C1: Planning the application**		**Suggested teaching time: 9 hours**	
Planning the application	*There is no specific requirement for learners to use technology to produce flow charts and/or Gantt charts. However, tools such as 'draw.io' may prove useful in this context.* • **Tutor-led presentation:** focusing on the planning methods that the learners should consider using when planning an application. Examples of the methods presented should be made available during the session: o flow charts – explain the components and mechanics of flow charts and also how these are used as a valuable technique in the problem-solving process as a whole. o storyboarding – explain its use as a tool that can incorporate map the user experience in relation to technical choices being made. o screen layout designs – explain how the designs could be produced and	S Unit 10: LAB1–B3, LAC1–C3	T Problem solving – identifying issues by being able to examine information; decision making to find solutions

	even used to seek feedback from proposed users before decisions are set in stone. The designs should include basic information about how data will be input and output, and the key usability features that will be included. • **Guest speaker:** organise a speaker from a local software house to visit the centre and provide learners with some real examples of how an application is planned and designed. He or she should be able to demonstrate a number of different projects that they have been involved in, describe the context (i.e. business purpose, audience etc.) and how the decisions were made to meet those needs. The guest speaker should then support a master class, working with the learners on a completed project that he or she has previously completed, but which the learners have not seen as part of the presentation. The final solution can then be revealed.		W Employer interaction
C2: Creating a digital application		**Suggested teaching time: 7 hours**	
Creating a digital application	*To prepare for this outcome, the tutor will need to make some decisions about the CMS platform that the learners will use to create a digital application. This may mean that two or three lessons will need to be used, so that learners can learn the basic navigation of the CMS*. • **Small group activity:** learners to get into small groups to complete a mini project, involving the creation of a simple digital application. It must include: o developing the media using a CMS o creating interactive content o editing a range of content o creating forms and templates o creating an overall stall, considering a range of design features. Sample projects could be drawn from the following resources: o *YouTube* – search for **'**Make a chat application in 180 seconds from scratch by Scratch' by Kazuhiro Abe o *WordPress* – website that provides information on how to create a class	S Unit 10: LAB1–B3, LAC1–C3	T Working with others – setting common goals; listening to others in team, being open-minded; taking on roles and responsibilities

	website o *Spruz* – website that provides information on how to create a new social media site o *Schedule Builder* – website with a tool that can help to create a homework scheduler. Each group creates a project using the planning methods and screen designs. They must develop the media and create the application. Each group should demonstrate their application to the class for feedback. Tutor can search for the 'TechFuture Classroom' project, *App Design with AppShed* and *Web Design with Skylark Creative.* These are projects that look at the application development life cycle from client brief to delivery, including testing and support.		
C3: Testing applications		**Suggested teaching time: 7 hours**	
Testing applications	• **Tutor-led presentation:** about testing applications, focusing on: **o** why testing is needed o the stages of testing o tools and techniques o testing for functional and non-functional elements (including black box and white box) o why you need a test plan o what test cases are **o** how test plans are created. Tutor can search for Software *Testing – Srihari Techsoft* online for a PDF presentation that covers almost all of the content above, but some of it at a slightly higher level. It does, however, provide a useful start point. • **Small group activity:** learners to use the knowledge and understanding gained in the presentation to create a test plan checklist. This is not an actual test plan, but is a checklist of things that should go into a test plan. The reason is that test plans will be modified to suit the application or context of the developed product (the checklist will contain a list of tools and techniques, some of which will not be appropriate, e.g. using break	Unit 10: LAB1–B3, LAC1–C3	Develop practical and technical skills – demonstrate techniques/skills/processes Working with others – listening to others in team, being open-minded; taking on roles and responsibilities

	and watching if it is not a programmed product). Once the test plan checklists have been created, learners to work together as a class to create a final version. • **Small group activity:** learners must now form small groups and use the checklist to create a test plan for the application developed in the previous learning aim. Each group should then ask another group to test and feed back on their application.		
Create and test a digital application for an organisational purpose	• **Assignment writing:** the assignment should ideally be based on a live client brief that requires learners to plan, design and test a digital application for a business purpose. The plan should use flow charts and screen designs, the implementation should ensure that interactive digital content is used, and the test plan that is created should be carried out with testing evidenced.		Preparing for work – apply knowledge and understanding in straightforward contexts Develop practical and technical skills – demonstrate techniques/skills/processes Problem solving – identifying issues by being able to examine information; decision making to find solutions

Summary of resources

In addition to the resources listed below, publishers are likely to produce Pearson-endorsed textbooks that support this unit. Check the Pearson website at http://qualifications.pearson.com/en/support/published-resources.html for more information as titles achieve endorsement.

Websites

- *Blinkee* (US LED lights website); *Mr Bottles* (US antique advertising club); *Jamilin* (US Jami Lin's passions about Feng Shui and interior design); *Wholesale Meats (Coventry) Ltd.* (online wholesale meat supplier); *Penny Juice* (US Juice for children); *Gates N Fences* (US gate and fence supplier) – example websites for user interface activity (for learning aim B2).
- *007 museum* website – case study for activity where learners must make recommendations for improvements based on the concept of visual appeal (for learning aim B2).
- *Schedule Builder* – website with a tool that can help to create a homework scheduler (for learning aim C2).
- *Software Testing Help* – search for the question in the Q&A section, 'What is the difference between test plan, test strategy, test case, test script, test scenario and test condition?' (for learning aim C3).
- *Software Testing – Srihari Techsoft* a PDF presentation about testing applications (for learning aim C3).
- *Spruz* – website that provides information on how to create a new social media site (for learning aim C2).
- *Wikipedia* – search for 'List of file formats' (for learning aim B2).
- *WordPress* – website that provides information on how to create a class website (for learning aim C2).
- *WP Beginner* – search for '25 Examples of WordPress Being Used as a CMS' for some interesting and possibly surprising examples of how WordPress can be used as a CMS (for learning aim A3).

Videos

Access *YouTube* for the following videos:

- 'Future of Print Media' by Mladen Marin, a video perspective on the importance of print media and the trends towards electronic alternatives; '*Print vs. Digital* – A short film by Pen Works Media' by Pen Works Media, an unusual perspective on printed media from a father's reflection on a discussion with his daughter (for learning aim A2).
- 'How User Interface Design Impacts Your Brand Experience' by PixelMEDIA, how to build a website that promotes interaction and creates confident loyal customers (for learning aim B2).
- 'Make a chat application in 180 seconds from scratch by Scratch' by Kazuhiro Abe (for learning aim C2).
- 'Microsoft's Concept of How 2019 Will Look Like – Official Video' by Microsoft, an interesting glimpse of a possible future in computing technology – particularly in relation to emerging technologies and interface (for learning aim B2).

- 'User experience tutorial: Fitt's Law' by LinkedIn Learning Solutions. The video explores different navigation tools and the reasons why they are used in certain contexts; 'A Brief History of the User interface' by Bulma. It explores how the user interface has changed over the years, e.g. how the mouse and the mouse pointer replaced keyboard commands (the days even before the GUI) (for learning aim B3).
- 'What is Usability?' by Robb Burns, an introduction to usability and usability design at the right level for this qualification (for learning aim B1).

Journal

- *Computer Weekly* – This is available in both published and online formats and is particularly useful to introduce learners to up-to-date sector information, both in terms of advances in existing technologies and the emergence of new technologies. There will continue to be articles that predict both medium- and short-term application developments (for learning aims A–C).