edexcel

CiDA/DiDA

Certificate/Diploma in
Digital Applications
Level 1

Specification

Pearson Edexcel Level 1 Certificate/Diploma in Digital Applications (CiDA/DiDA) **From September 2014**

ALWAYS LEARNING

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All information in this specification is correct at time of publication.

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Contents

The purpose of this specification

The purpose of a specification as defined by Ofqual is to set out:

- the qualification's objective
- any other qualification that a learner must have completed before taking the qualification
- any prior knowledge, skills or understanding that the learner is required to have before taking the qualification
- units that a learner must have completed before the qualification will be awarded and any optional routes
- any other requirements that a learner must have satisfied before they will be assessed or before the qualification will be awarded
- the knowledge, skills and understanding that will be assessed as part of the qualification (giving a clear indication of their coverage and depth)
- the method of any assessment and any associated requirements relating to it
- the criteria against which the learner's level of attainment will be measured (such as assessment criteria)
- any specimen materials
- any specified levels of attainment.

Qualification titles and Qualification Numbers

Qualification title	**Pearson Edexcel Level 1 Certificate in Digital Applications**
Qualification Number (QN)	**601/3256/5**

Qualification title	**Pearson Edexcel Level 1 Diploma in Digital Applications**
Qualification Number (QN)	**601/3257/7**

These qualifications are on the National Qualifications Framework (NQF).

Your centre should use the Qualification Number (QN) when seeking funding for your students.

The qualification title, units and QN will appear on each student's final certificate. You should tell your students this when your centre recruits them and registers them with us. There is further information about certification in our *UK Information Manual* available on our website: www.edexcel.com

Introduction

Key features

The Pearson Edexcel Level 1 Certificate in Digital Applications (CiDA) and the Pearson Edexcel Level 1 Diploma in Digital Applications (DiDA):

- are Level 1 qualifications graded at A*, A, B and C and are primarily for students aged 14 years and over, (may also be taken by other students who want an introductory level understanding of a vocational area)
- are equivalent to one GCSE at grade D-G (CiDA – 120 GLH) and two GCSEs at grade D-G (DiDA – 240 GLH), respectively.
- are available on the National Qualifications Framework (NQF)
- provide opportunities for synoptic assessment
- are available for first registration from September 2014
- are available for first certification from June 2015

Rationale

The UK is a world leader in the creative digital industries, creating, for example, websites, digital graphics and computer games. However, there is growing recognition that we need to build on and improve the UK's capability and capacity for technical innovation and creativity in this area.

The Pearson Edexcel Level 1 Certificate and the Pearson Edexcel Level 1 Diploma in Digital Applications have been designed to engage and enthuse young people with an interest in creative computing, for example digital graphics, interactive multimedia or computer games.

Our aim is to encourage students to pursue education, training and careers that will contribute to this growing sector while achieving job satisfaction and reward. As such, these qualifications have been designed to enable young people to use digital design tools to express their creativity through IT in an informed and responsible way.

Aims

These qualifications aim to:

- equip young people with the knowledge, understanding and skills they need to design and make digital products for others to use
- enable young people to use digital tools as a means of expression to inform, persuade and entertain
- foster young people's creativity and develop their independent learning skills
- challenge young people to reflect on what they produce and strive for improvement
- increase young people's awareness of their responsibilities in the digital world and their respect of other people's rights
- equip young people with real-world skills in planning and communication
- give young people the knowledge, understanding and skills they need to support future learning.

Progression

These qualifications provide a broad and solid foundation for further study of various aspects of creative computing, such as graphic design, web design, computer games design and interactive media, and other aspects of computing.

These qualifications support progress to further study, including:

- Pearson Edexcel Level 2 Certificate in Digital Applications
- Pearson BTEC Level 1/Level 2 First Award in Information and Creative Technology
- Pearson BTEC Level 1/Level 2 First Certificate in Information and Creative Technology
- Pearson BTEC Level 1/Level 2 First Extended Certificate in Information and Creative Technology
- Pearson BTEC Level 1/Level 2 First Diploma in Information and Creative Technology
- Pearson BTEC Level 1/Level 2 First Award in Creative Digital Media Production
- Pearson BTEC Level 1/Level 2 First Certificate in Creative Digital Media Production
- Pearson BTEC Level 1/Level 2 First Extended Certificate in Creative Digital Media Production
- Pearson BTEC Level 1/Level 2 First Diploma in Creative Digital Media Production
- Pearson Edexcel GCSE in Information and Communication Technology (ICT)
- Pearson Edexcel GCSE in Information and Communication Technology (ICT) (Double Award).

They also enhance young people's overall digital literacy and give them a solid foundation for further study and employment.

Recommended prior knowledge, skills and understanding

Although students do not need to have achieved any other qualifications before registering for the Pearson Edexcel Level 1 Certificate and Diploma in Digital Applications, they are expected to have completed the Key Stage 3 Programme of Study for Computing.

The following skills and aptitudes will also be helpful:

- basic literacy
- basic numeracy
- some motivation to work independently
- some aptitude for working with computers.

Qualification structures

Pearson Edexcel Level 1 Certificate in Digital Applications (CiDA)

The Pearson Edexcel Level 1 Certificate in Digital Applications (CiDA) is taught over 120 guided learning hours (GLH) and comprises one mandatory unit and one optional unit.

Pearson Edexcel Level 1 Certificate in Digital Applications (CiDA)		
Unit	**Mandatory unit** Students must complete this unit.	**GLH**
1	Developing Web Products	30
Unit	**Optional units** Students must complete **one** of these three optional units.	**GLH**
2	Creative Multimedia	90
3	Artwork and Imaging	90
4	Game Making	90

Pearson Edexcel Level 1 Diploma in Digital Applications (DiDA)

The Pearson Edexcel Level 1 Diploma in Digital Applications (DiDA) is taught over 240 guided learning hours (GLH) and comprises two mandatory units and two optional units.

Pearson Edexcel Level 1 Diploma in Digital Applications (DiDA)		
Unit	**Mandatory units** Students must complete these units.	**GLH**
1	Developing Web Products	30
5	Coding for the Web	30
Unit	**Optional units** Students must complete **two** of these three optional units.	**GLH**
2	Creative Multimedia	90
3	Artwork and Imaging	90
4	Game Making	90

Assessment Objectives

There are **four** Assessment Objectives (AOs) for CiDA and DiDA. They detail the knowledge, skills and understanding that students are required to demonstrate.

	Students are required to demonstrate practical capability* in:
AO1	applying creative processes to design digital products
AO2	selecting and preparing appropriate digital content
AO3	developing and testing effective, fit-for-purpose digital products
AO4	evaluating the fitness for purpose of digital products.

*capability = ability to apply knowledge and skills purposefully

Assessment Objective weightings for the Pearson Edexcel Level 1 Certificate in Digital Applications (CiDA)

The weightings for each Assessment Objective for the Pearson Edexcel Level 1 Certificate in Digital Applications (CiDA) are shown below.

	Percentage weightings	
	Unit 1	Unit 2/Unit 3/Unit 4
AO1	21.2	27.3
AO2	27.3	27.3
AO3	39.4	33.3
AO4	12.1	12.1
Total	100%	100%

Assessment Objective weightings for the Pearson Edexcel Level 1 Diploma in Digital Applications (DiDA)

The weightings for each Assessment Objective for the Pearson Edexcel Level 1 Diploma in Digital Applications (DiDA) are shown below.

	Percentage weightings		
	Unit 1	Unit 5	Unit 2/Unit 3/Unit 4
AO1	21.2	24.2	27.3
AO2	27.3	24.2	27.3
AO3	39.4	42.5	33.3
AO4	12.1	9.1	12.1
Total	100%	100%	100%

Assessment summary

Summative Project Briefs

All units will be assessed through a Summative Project Brief.

The Summative Project Brief is the means by which students bring together the knowledge, skills and understanding they have acquired throughout the unit into a synoptic piece of work. There is a Summative Project Brief for each unit.

Summative Project Briefs are set by Pearson, administered and marked by the centre, and moderated by Pearson.

Availability of assessment

The first assessment opportunity for all units will take place in the June 2015 series and in each following June and January series for the lifetime of the specification.

	June 2015	January 2016	June 2016
Unit 1	✓	✓	✓
Unit 2	✓	✓	✓
Unit 3	✓	✓	✓
Unit 4	✓	✓	✓
Unit 5	✓	✓	✓

Unit structure

The units are divided into a number of sections. These sections are aimed at students:

Introduction: provides the rationale for the unit, including its vocational relevance.

What you need to learn: sets out the knowledge, understanding and skills that students need to learn and apply.

How you will be assessed: summarises the assessment requirements for the unit.

The other sections are for teacher guidance:

Assessing students' work: provides detailed guidance on how to assess students' work, with mark descriptions

Delivering the unit: suggestions for how to deliver the unit

Links: shows the relationship with other units in the qualification

Resources: lists suggested resources such as books, software, magazines.

Units

Unit 1: Developing Web Products

Level: 1
Guided Learning Hours: 30

Introduction

Ever wondered what makes a good web page? The thing that all successful web products have in common is that they are all well designed and functional – in other words they look good and serve a purpose.

The aim of this core unit is to give you the knowledge and skills you need to be able to produce attention-grabbing web products. You need to take this unit before you start any optional units.

You will learn how to use web-authoring software to combine elements such as text, images and multimedia assets into an effective web product, designed for a specific purpose and audience.

You will demonstrate your ability to design, build and test a web product through your response to a summative project brief set by Pearson.

What you need to learn

1.1 Audience and purpose

The project lifecycle usually begins with a client brief. You need to know that a client brief includes information on:

- the purpose of the website, such as to:
  - convey a message
  - promote a product or service
  - inform
  - entertain
- the target audience.

1.2 Site structure and consistency

As part of the planning for the website, you will learn how to create a structure chart showing:

- how many pages the website will have
- how they are organised
- what will go on each page.

All the web pages must be consistent in structure and appearance. You will learn how to use a template or master page to set the:

- page size
- banner height and width
- navigation bar
- colour scheme
- font, size and colour
- page footer.

1.3 Page design and layout

You will design all of the web pages in the site. For each page layout you should consider:

- the suitability of the page template
- the information you want to include
- images – quantity, size and position
- text – position of headings and body copy
- interactivity – links, hotspots and rollovers
- multimedia assets – video, audio, animation
- where each asset should appear on the page
- the balance between text and images
- how to make the information clear to the user.

1.4 Content selection and preparation

You need to know how to source, select and prepare content. You will learn how to:

- create content (photography, written text)
- source content, (image banks, assets, e.g. audio, video)
- prepare images
  - crop
  - re-size
- store in the root folder
- present text using formatting features, e.g. line spacing, bullets and numbering, paragraphs.

You need to save assets in the most appropriate file formats:

- images (png and jpg)
- audio (mp3)
- video (swf, mov and mp4).

1.5 Creating web pages

To create your web pages, you will learn how to use appropriate web-authoring software to:

- arrange content on the page
  - create and use tables
  - insert and position assets, including text, images and multimedia files
  - resize images and retain proportions
  - border, margin and padding
  - present text, e.g. using web-friendly fonts
  - styling links – link, visited, hover, active
- use colour, e.g. foreground, background
- create interactive components, including:
  - navigation bars
  - hyperlinks – internal, external, email
  - rollovers
  - hotspots.

1.6 Testing

You will learn how to carry out functionality testing of a website, including:

- multimedia assets work as intended
- hyperlinks work as expected with no dead ends
- any interactive actions work as intended.

You will also learn how to carry out usability testing to test ease of navigation.

1.7 Review

It is always important to review the finished website in relation to the purpose and target audience.

You will:

- gather feedback from users/peers/experts
- respond to feedback
- comment on the strengths and weaknesses.

How you will be assessed for Unit 1: Developing Web Products

This unit takes a holistic approach to the assessment of knowledge, understanding and skills. You will demonstrate your knowledge and understanding of the content by how well you perform the tasks in the project brief that will be given to you.

The Summative Project Brief requires you to use web-authoring software and other software tools to create a web product for a specified audience and purpose, using a client brief.

You will be expected to complete the Summative Project Brief in 10 hours.

You will be expected to:

(a) Design a consistent page layout (6 marks)
(b) Select, prepare and present content (7 marks)
(c) Create web pages using web-authoring software (7 marks)
(d) Produce a functional website (9 marks)
(e) Review the website (4 marks)

Assessing students' work

Five activities are used to assess achievement in **Unit 1: Developing Web Products**:

(a) Design a consistent page layout	0-6 marks
(b) Select, prepare and present content	0-7 marks
(c) Create web pages using web-authoring software	0-7 marks
(d) Produce a functional website	0-9 marks
(e) Review the website	0-4 marks

Mark descriptions are written in bands. In each band, the description relates to the top of the band.

Whenever assessments are made, the mark descriptions given should be used to judge the mark which best fits the student's performance. Students should be placed in a band on a 'best fit' basis, making allowance for balancing the strengths and weaknesses in the work presented.

The Moderator's Toolkit stipulates the acceptable file formats for content. Work must be submitted in formats that will be accessible by the moderator. Work that cannot be accessed by the moderator (for example because files are corrupted, infected by viruses or presented in formats that are not acceptable) cannot be moderated.

Recommended file sizes are published in each Summative Project Brief (SPB). It should be noted that working within these guidelines will allow students to meet all requirements of the SPB.

Strand	Strand total	Mark allocation per AO for Unit 2			
		AO1	AO2	AO3	AO4
A	6	6	-	-	-
B	7		7	-	-
C	7	-		7	-
D	9			9	-
E	4	-	-	-	4
Total	**33**	**6**	**7**	**16**	**4**

(a) Design a consistent page layout (maximum 6 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1-2 marks	The student has produced limited evidence of planning regarding the structure of the site or individual pages and there is very little consistency between the pages in the site.
3-4 marks	The student has produced some evidence of basic planning regarding the structure of the site and/or individual pages. Some components of the page template and/or other aspects of layout and design are consistent across more than one page.
5-6 marks	The student has produced some evidence of appropriate planning regarding the structure of the site and individual pages. Most of the components of the page template and/or other aspects of layout and design have been applied consistently across each page.

(b) Select, prepare and present content (maximum 7 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1-2 marks	The student has gathered content but it has little relation to either the intended audience or purpose and preparation of assets is minimal with few prepared appropriately. Information about the development process is limited.
3-4 marks	The student has gathered and prepared content, some of which is appropriate for either the intended audience or purpose. Preparation of some assets will be appropriate although it may be inconsistent. Students will have provided general information about some aspects of the development process.
5-7 marks	The student has gathered and prepared content for the site, most of which is appropriate for both the intended audience and purpose. Most of the assets will be prepared appropriately and consistently. They have provided some specific information about most aspects of the development process.

(c) Create web pages using web-authoring software (maximum 7 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1-2 marks	There is an attempt to present text in a web-authoring programme but it is generally unclear. At least one image will retain its original proportions and there is an attempt at page design but the design hinders communication, e.g. through the balance of text and images, positioning of assets, number of assets, use of colour.
3-4 marks	The layout of at least one web page shows some awareness of how to present text clearly in a web-authoring programme, e.g. headings, web-safe fonts, style. Some of the images will retain their original proportions and at least one aspect of the page design will support communication, e.g. through the balance of text and images, positioning of assets, number of assets and use of colour.
5-7 marks	The layout of most, if not all, of the web pages shows an awareness of how to present text clearly in a web-authoring programme, e.g. headings, web-safe fonts, alignment. All of the images retain their original proportions and border, margin and/or padding enhance layout. The page design supports communication, e.g. through the balance of text and images, positioning of assets, number of assets, use of colour.

(d) Produce a functional website (maximum 9 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1-3 marks	The final website will fulfil few requirements of the brief. • The student has produced at least one functional link between pages although the link may not be obvious, legible or contain appropriate text and/or graphics. • Email and external links will have been attempted but will not function as intended. • Multimedia assets are included but few will function appropriately and there will be limited assets on the pages.
4-6 marks	The final website will fulfil some of the requirements of the brief. • The student has produced functional links between all of the pages in the site and although the links may not be obvious or legible, the text and/or graphics chosen for the link will be appropriate. • At least one example of an email or external link will function as intended. • Some multimedia assets will function appropriately and most of the assets on the pages will render in a browser without missing content.
7-9 marks	The final website fulfils most of the requirements of the brief. • The student has produced a website with functional links between the number of pages stipulated in the brief. The links are mostly obvious and legible and the text and/or graphics chosen for the link will be appropriate. • Email links will function as intended, as will any external links included within the site. • Most multimedia assets will function appropriately and all of the assets on the pages will render in a browser without missing content.

(e) Review the website (maximum 4 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–2 marks	The student has made comments about the strengths and weaknesses of the website but they are limited and few are meaningful. They have included feedback from users but have not responded to it. There are few appropriate suggestions for improvement.
3-4 marks	The student has made reflective comments about the strengths and weaknesses of the website, including aspects of functionality and usability, most of which are meaningful. They have included feedback from users and have responded to it, making appropriate suggestions for improvements.

Delivering Unit 1: Developing Web Products

This unit gives students an introduction to web authoring. Most students will already have considerable experience of websites and other web products as users, however, they may not have given much thought to what makes a good website. They should be encouraged to look critically at a variety of web products for different audiences and purposes. It is important that students investigate aspects of successful design, including content, structure, navigation and interactivity.

The design process is crucial to the success of a web product. Students need to understand the requirements of a client brief and be able to translate those requirements into a coherent web product. This will involve taking responsibility for the planning, design and construction of the web product.

Students should be able to understand how to source content for a web product, as their web pages will require a range of information in different formats such as text, images and multimedia. Although they will need to be able to optimise images and embed audio, video and animation files, students will not be expected to create assets of their own.

Students need to gain experience of using web-authoring software to create page templates, design page layouts and develop a website that functions as intended.

Students must be encouraged to regard testing as an integral part of the development process, checking both functionality and usability and incorporating feedback from suitable users.

The ability to evaluate the strengths and weaknesses of the finished product will enable students to identify and communicate improvements to their web products.

Links to other units

This unit provides grounding in knowledge and skills that will be required in the optional units. **Students should complete the learning for this unit before starting the optional units**.

Resources

Books

Aho K, Dharker A and Miller G – *Digital Design Curriculum Guide* (Course Technology, 2003) ISBN 9780619055162

Burden K, Kuechel T and Smith A – *Edexcel DiDA: Multimedia* (Longman, 2005) ISBN 978846901154

Duckett J – *HTML & CSS* (John Wiley & Sons, 2011)
ISBN 9781118008188

McNeil P – *The Designer's Web Handbook, What You Need to Know to Create for the Web* (F.W. Media Inc., 2012) ISBN 9781440314414

Magazines

.net

Web Designer

Software

Web-authoring software
For example:
- Adobe Dreamweaver
- Microsoft Front Page
- Serif WebPlus

Image manipulation software

For example:
- Adobe Fireworks
- Adobe Photoshop
- Serif PhotoPlus

Office applications
For example:
- Google docs
- Microsoft Office
- Open Office

Websites

Best Designs – www.thebestdesigns.com

Design Shack – www.designshack.net

W3 Schools – www.w3schools.com

Unit 2: Creative Multimedia

Level: 1
Guided Learning Hours: 90

Introduction

This unit is about making products such as websites, presentations and games. These products are called multimedia because they use combinations of text, images, sound, video and interactive assets such as hyperlinks.

You will explore a range of existing multimedia products to find out how, depending on the purpose of the product, different multimedia assets are used.

You will learn how to design multimedia products of your own by setting out exactly how you want each screen to look, the assets you need and how the product will work.

You will learn how to gather the assets you need. In some cases, you will be able to use ready-made assets but you will also need to learn how to create new assets yourself, such as recording a sound or taking a photograph.

You will learn how to combine all the assets into a multimedia product and how to test it thoroughly, get feedback and make any necessary changes.

You will demonstrate your ability to design, build and test multimedia products through your work on a major project set by Pearson.

What you need to learn

2.1 Exploring multimedia products

You will look at different types of multimedia products and their purpose, including:

- presentations, information points, e-books (education)
- games, videos (entertainment)
- websites, digital adverts (marketing).

You need to consider the features of the products, such as:

- navigation and/or layout
- content
- interactivity
- use of colour
- different types of multimedia assets used (text, graphics, sound, video, animation)
- fitness for purpose/audience.

2.2 Designing multimedia products

You need to plan carefully to produce multimedia products that are fit for audience and purpose.

You need to be clear who a product is for, its purpose, what types of multimedia assets are required and any technical requirements.

Once you have answered these questions you can start to make decisions about:

- content
    - text (font, colour, size, language)
    - images
    - sound, (effects, music, voice)
    - video
- layout (proportions, consistency)
- structure
- navigation (navigation bar, text and graphical links)
- accessibility features (font size , colour contrast).

You will learn how to use design documents, including:

- plans for layout and content
- storyboards for moving images
- timelines and scripts for audio
- structure charts to show how screens link.

You will learn how to gather feedback from others on your initial designs and how to decide what changes to make.

2.3 Producing digital assets

You need to collect suitable content for your multimedia products, including ready-made assets **and** those you create yourself.

You will learn how to find ready-made assets such as:

- images from picture galleries or clipart collections
- video from film libraries or video clip collections
- audio (effects, music) from sound libraries
- text from websites, books or magazines.

You will learn how to log sources and details of any assets you decide to use, including:

- where each asset came from
- who created it
- the amount of copyright material used, e.g. two minutes of video footage, a logo or music
- where you have used the copyright material.

You will learn how to use a range of digital tools to create and edit assets, including:

- using software to produce and format text
- capturing images using a camera, scanner or mobile phone
- using graphic and drawing tools to create images
- simple editing of text and images (colour/shading, cropping and resizing, brightness and contrast, formatting)
- recording and editing sound
    - capture and import sound
    - use formatting and editing features (apply effects, use transitions, edit timeline)
    - produce finished sound file and export to appropriate file type
- recording and editing video and movies
    - capture and import video footage, sound, still images
    - use transitions, titles and credits
    - produce finished video/movie.

You will learn how to select appropriate file names and formats for the assets you collect.

2.4 Developing multimedia products

When you have a detailed design for a product you can start to develop it using appropriate software.

You will learn how to:

- use contrast, pattern, background
- use fonts and styles
- create and modify frames and tables
- add lines and simple shapes
- use hyperlinks
- implement moving images and sound
- use master slides and templates
- create slide transitions
- link components (sound, video, graphical and text links).

You will learn how to test your products to ensure that:

- the content is correct
- every link works and goes where it should
- other people can use the product without help
- the product works away from the computer/network on which it has been created.

You will also to learn how to:

- respond to feedback from others
- decide and log what needs to be changed
- check that the product still works correctly after you make changes.

2.5 Standard ways of working

While working on a project you will be expected to use ICT safely, efficiently and legally. You need to learn about these standard ways of working:

- working safely
  - select and adjust system settings, e.g. privacy settings
  - take regular breaks
  - handle and store media correctly
  - use the internet in a responsible and safe way
- file management
  - save work regularly
  - use sensible filenames
  - set up directory/folder structures to organise files
  - make regular backups and versions to show progress
- personal effectiveness
  - select appropriate ICT tools and techniques
  - use available sources of help

- quality assurance
  - use quality assurance tools, e.g. spell and grammar check and print preview
  - proofread
  - seek views of others
  - test components
- legal issues
  - acknowledge sources
  - avoid plagiarism.

2.6 Product review

You will learn how to review your products, including:

- how well they work
- how easy they are to use
- responding to feedback from test users/reviewers and action taken
- making valid suggestions for further improvements.

2.7 Presenting your work

You will learn how to present your work to others. It will be viewed onscreen. You will make decisions about:

- multimedia products
- supporting evidence
- suitable file types
- appropriate file names
- links to the evidence and products from a single index page.

You need to test your evidence and ensure that products and links work, also that the evidence opens on different computers/networks. You should ask your test buddy to test everything as well as testing it all yourself.

How you will be assessed for Unit 2: Creative Multimedia

This unit takes a holistic approach to the assessment of knowledge, understanding and skills. You will demonstrate your knowledge and understanding of the unit content by working through the tasks in a project brief that will be given to you.

This summative project brief requires you to create multimedia products for a specified audience and purpose.

It is expected that the summative project brief will take you 30 hours to complete.

You will be expected to:

(a)	Design multimedia products (7 marks)
(b)	Produce digital assets (9 marks)
(c)	Develop multimedia products (9 marks)
(d)	Present work (4 marks)
(e)	Review the products (4 marks)

Assessing students' work

Five activities are used to assess achievement in **Unit 2: Creative Multimedia**.

Students will be expected to:

(a) Design multimedia products	0–7 marks
(b) Produce digital assets	0–9 marks
(c) Develop multimedia products	0–9 marks
(d) Present work	0–4 marks
(e) Review the products	0–4 marks

Mark descriptions are written in bands. In each band, the description relates to the top of the band.

Whenever assessments are made, the mark descriptions given should be used to judge the mark which best fits the student's performance. Students should be placed in a band on a 'best fit' basis, making allowance for balancing the strengths and weaknesses in the work presented.

The Moderator's Toolkit stipulates the acceptable file formats for content. Work must be submitted in formats that will be accessible by the moderator. Work that cannot be accessed by the moderator (for example, because files are corrupted, infected by viruses or presented in formats that are not acceptable) cannot be moderated.

A recommended maximum size for the evidence is published in each Summative Project Brief (SPB). It should be noted that working within these guidelines will allow students to meet all requirements of the brief.

Strand	Strand total	Mark allocation per AO for Unit 2			
		AO1	AO2	AO3	AO4
A	7	7	-	-	-
B	9	2	7	-	-
C	9	-		9	-
D	4		2	2	-
E	4	-	-	-	4
Total	**33**	**9**	**9**	**11**	**4**

(a) Unit 2: Creative Multimedia – Design multimedia products (maximum 7 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–3 marks	The student has produced design ideas and plans but they are unclear in terms of how the products will function and what the user experience will be. They will have provided limited information about the assets required and made minimal, if any, comment on design decisions. The product design may be incomplete and individual elements will lack a coherent link.
4–5 marks	The student has produced design ideas and plans that give a broad indication of how the products will function and what the user experience will be. They will have provided some information about the elements required and made general comments on the design decisions. The product design will be complete but individual elements may lack a coherent link.
6-7 marks	The student has produced design ideas and plans that give a specific indication of how the products will function and what the user experience will be. They will have provided relevant information about most of the assets required and made specific comments on design decisions in relation to the brief. The product design will be complete and there will be some indication of a coherent link between elements.

(b) Unit 2: Creative Multimedia – Produce digital assets (maximum 9 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–3 marks	The student has produced assets for some of the products outlined in the brief but has not created any themselves. They have provided minimal information about the assets produced.
4–6 marks	The student has produced appropriate assets for most of the products outlined in the brief, including two they have created themselves. They have provided general information about the assets produced.
7-9 marks	The student has produced appropriate assets for all of the products outlined in the brief, including two assets they have created themselves for different media. They have provided specific information about the assets produced.

(c) Unit 2: Creative Multimedia – Develop multimedia products (maximum 9 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–3 marks	The student has developed some of the multimedia products required of the project brief. Some of the features of the products are appropriate for the purpose or target audience.
4–6 marks	The student has developed most of the multimedia products required of the brief and most of the features of the products are appropriate for the purpose and target audience.
7–9 marks	The student has developed all the products required of the project brief and all of the features of the products are appropriate for the purpose and target audience.

(d) Unit 2: Creative Multimedia – Present work (maximum 4 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–2 marks	The student has used suitable file types to save work and has provided access to most of the evidence through a single index page. There are links to evidence and products but these may not be clear.
3–4 marks	The student has used suitable file types and appropriate file names to present their work and provided access to all of the evidence through a single index page, including clear links to both evidence and products.

(e) Unit 2: Creative Multimedia – Review the products (maximum 4 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–2 marks	The student has made descriptive comments on the strengths and weaknesses of their final products. They have gathered feedback from others but may not have responded to it in any meaningful way.
3–4 marks	The student has made reflective comments on the strengths and weaknesses of individual assets and the final products produced. They have gathered feedback about the products and have responded with suggestions for further improvement.

Delivering Unit 2: Creative Multimedia

Most students will already have experienced lots of multimedia products but may not have given much thought to their features. Students should be encouraged to explore a range of multimedia products, for example websites, presentations, e-books, information points and games. Resources are available at the library, in shops, on the internet and on games machines. It is important that students investigate aspects of successful design, including content, structure, navigation, screen and interactivity and discuss possible alternatives to the components used. They should try to establish the purpose and intended audience for each product investigated and judge whether it is fit for purpose.

Students will probably need guidance when planning their multimedia products and on sourcing assets. It is important that they are given a range of sources for assets. While collecting materials they must be reminded about the laws of copyright and the importance of acknowledging sources. They should be encouraged to keep an ongoing record of all sources of the assets they collect.

The design process is crucial to the success of a multimedia product. Students should be encouraged to make all the important decisions before developing a product. They must be able to use storyboards and structure charts for this purpose.

Students should be encouraged to regularly test their products during development and to respond to test user feedback.

Students need to gain experience of using a range of software applications before embarking on the Summative Project Brief. It may be useful to give them a series of small projects to carry out to help them acquire the skills they need to edit ready-made components and to create their own. It is important that students observe standard ways of working, even when they are not explicitly assessed.

Links to other units

This unit develops and builds on the skills covered in *Unit 1: Developing Web Products*. It is recommended that students complete Unit 1 before undertaking this unit.

There are also links to *Unit 3: Artwork and Imaging* and *Unit 4: Game Making*.

Resources

Software

Artwork and imaging software

For example:

- Adobe Fireworks
- Adobe Freehand
- Adobe Illustrator
- Adobe Photoshop
- Google Picasa 3 (freeware)
- Irfanview (freeware)
- Serif DrawPlus
- Serif PhotoPlus

DVD authoring software

For example:

- Adobe Encore
- Adobe Premiere Elements
- Apple DVD Studio Pro
- Apple iDVD
- Serif DV Suite
- Ulead Studio

Media players (free downloads)

For example:

- Flash Player
- Real Player
- QuickTime Player
- Windows Media Player

Multimedia authoring software

For example:

- Adobe Flash
- Matchware Mediator

Multimedia tools

For example:

- Audacity (freeware)
- QuickTime Pro

Video capture and editing software

For example:

- Adobe Premiere
- Apple iMovie
- Corel VideoStudio
- Final Cut Express
- Microsoft Moviemaker
- Pinnacle Studio 14

Screen-recording software

For example:

- Adobe Captivate
- BB FlashBack
- Debugmode Wink (freeware)
- MatchWare ScreenCorder
- TechSmith Camtasia

Websites

Resources

Creative Commons – www.creativecommons.org.uk

Freeplaymusic.com – Morguefile.com

Open Clip Art Library – www.openclipart.org

Professional vector clipart (includes free section) – www.clipart-design.com

Providers' solutions

Adobe – www.adobe.co/uk/education

Apple Learning Interchange – http://edcommunity.apple.com/ali

Serif –

www.serif.com/education/tutorials/dida.asp

Unit 3: Artwork and Imaging

Level: 1
Guided Learning Hours: 90

Introduction

This unit is about making graphic products that consist of elements such as photographs, shapes and drawings.

You will explore a range of existing graphic products to find out how they are used in different contexts, for example advertising, fashion and games.

You will learn how to design graphic products of your own by setting out exactly how you want each product to look and the elements you need.

You will learn how to gather the elements you need. In some cases, you will be able to use ready-made elements but you will also need to learn how to create new elements yourself, such as producing a drawing or editing a photograph.

You will learn how to combine all the elements into a graphic product and how to test it thoroughly, get feedback and make any necessary changes.

You will demonstrate your ability to design, build and test graphic products through your work on a project set by Pearson.

What you need to learn

3.1 Exploring artwork and images

Images are an important part of how we communicate with each other. You will explore a variety of artwork and images used in graphic products, including:

- illustrations (books, magazines, newspapers and posters)
- symbols and signs in public places
- website and presentations
- posters, leaflets and calendars
- packaging
- plans and models.

You will consider the features of the products such as:

- audience and purpose
- graphic elements
- colour and visual effect
- size and position.

3.2 Designing artwork and images

You need to plan carefully to produce graphic products that fulfil the brief and are fit for audience and purpose.

You need to be clear who a product is for, what its purpose is and what types of graphic elements are required.

Once you have answered these questions you can start to make decisions about:

- content (images, text, other artwork)
- layout (positioning, sizing, balance)
- accessibility (colour contrast, alternative text).

You will learn to develop your ideas for your designs using stimulus such as:

- photographs or parts of photographs taken by you or from the internet
- sketches, drawings or paintings of people, places, or objects
- diagrams, maps, plans
- background images or textures
- text in a particular typeface or font
- colours and colour combinations, patterns or effects.

You will learn how to gather feedback from others on your initial designs and make changes in response to it.

3.3 Image types

You will work with two different image types: vector and bitmap. You need to know what each one is most suitable for.

You will learn that vector images:

- can be edited and filled with colour
- are used for more precise images, e.g. maps, drawings, logos, clipart, lettering
- can be made bigger or smaller without losing any detail
- are not used to create photographic images
- generally require less storage space than bitmap images.

You will also learn that bitmap images:

- are made up of individual pixels that can be set to one colour
- are used for photographs or images with continuous colours
- will lose detail if they are made too big or small.

3.4 Developing artwork and images

You will develop content for your graphic products, including ready-made elements *and* elements you create yourself.

You will learn about the various options available and show evidence of different approaches, including:

- trying out particular tools to see how they can be used in your images
- exploring alternative ways of achieving the same effect
- using the work of another designer, illustrator or artist as a stimulus
- experimenting with different ways of conveying messages
- using combinations of vector and bitmap images.

You will make sure that your final images are fit for purpose and that their development, from idea to finished image, is evidenced.

You will learn how to select appropriate file names and formats for the elements you use.

3.5 Use drawing tools

You will learn how to use a range of digital tools to create and edit elements, including:

- stroke and fill
  - paint the stroke and fill separately
  - alter the thickness of the stroke
  - alter the fill, such as pattern
- edit and arrange vector images
  - cut, copy and paste
  - duplicate or clone
  - crop and resize
  - cut and join lines or shapes
  - group/ungroup
- combine basic shapes and freehand drawing
- use text
  - insert, format and edit
  - apply special effects, e.g. shadows
- save vector images
  - common file formats
  - formats for print and web and/or screen display.

3.6 Use image editing tools

You will learn how to use a range of digital tools to create and edit elements, including:

- creating bitmap images or elements
- scanning images
- downloading pictures from a digital camera
- drawing/painting images
- editing bitmap images
  - cut, crop and move elements
  - select parts of images
  - adjust colour
  - apply special effects
  - use layers in bitmap images
  - combine images and parts of images
- using text in bitmap images
- saving bitmap images
  - common file formats
  - formats for print and web and/or screen display
- combining bitmap elements and vector elements in a composite image.

3.7 Standard ways of working

While working on a project you will be expected to use ICT safely, efficiently and legally. You need to learn about these standard ways of working:

- working safely
  - select and adjust system settings, e.g. privacy settings
  - take regular breaks
  - handle and store media correctly
  - use the internet in a responsible and safe way
- file management
  - save work regularly
  - use sensible filenames
  - set up directory/folder structures to organise files
  - make regular backups and versions to show progress
- personal effectiveness
  - select appropriate ICT tools and techniques
  - use available sources of help
- quality assurance
  - use quality assurance tools, e.g. spell and grammar check and print preview
  - proofread
  - seek views of others
  - test components
- legal issues
  - acknowledge sources
  - avoid plagiarism.

3.8 Preparing images for screen

In preparing images for screen publication you will consider:

- the quality of the image (resolution, colours used)
- the file format (compression, format, size, bandwidth (download speed).

You will learn about:

- different colour systems (RGB, CMYK, greyscale, BW)
- colours and fonts that are suitable for the web.

3.9 Preparing images for print

In preparing images for print you will consider:

- printer (type, number of colours, resolution)
- medium (paper, card, fabric)
- paper (size, layout, orientation)
- image size.

You will learn how to make sure that your printed image looks how you want it to by:

- setting an appropriate resolution and image size
- selecting an appropriate file type.

3.10 Present work

You will learn how to present your work to others. It will be viewed onscreen. You need to make decisions about:

- graphic products
- supporting evidence
- suitable file types
- acceptable file names
- links to the evidence and products from a single index page.

3.11 Product review

You will learn how to review your products, including:

- how well they work
- how easy they are to use
- how well they meet the brief
- responding to feedback from test users/reviewers and action taken
- making suggestions for further improvements.

How you will be assessed for Unit 3: Artwork and Imaging

This unit takes a holistic approach to the assessment of knowledge, understanding and skills. You will demonstrate your knowledge and understanding of the content through how well you perform the tasks in the Summative Project Brief given to you.

This Summative Project Brief will require you to produce images and artwork for a specified purpose and audience. It is expected that it will take you 30 hours to complete.

You will be expected to:

(a)	Design and develop graphic products (7 marks)
(b)	Create graphic elements (9 marks)
(c)	Produce artwork and images (9 marks)
(d)	Present work (4 marks)
(e)	Review the products (4 marks).

Assessing students' work

Five activities are used to assess achievement in **Unit 3: Artwork and Imaging**.

Students will be expected to:

(a)	Design and develop graphic products	0–7 marks
(b)	Create graphic elements	0–9 marks
(c)	Produce artwork and images	0–9 marks
(d)	Present work	0–4 marks
(e)	Review the products	0–4 marks

In each band, the description relates to the top of the band.

Whenever assessments are made, the mark descriptions given should be used to judge the mark which best fits the student's performance. Students should be placed in a band on a 'best fit' basis, making allowance for balancing the strengths and weaknesses in the work presented.

The Moderator's Toolkit stipulates the acceptable file formats for content. Work must be submitted in formats that will be accessible by the moderator. Work that cannot be accessed by the moderator (for example because files are corrupted, infected by viruses or presented in formats that are not acceptable) cannot be moderated.

A recommended maximum size for the evidence is published in each Summative Project Brief (SPB). It should be noted that working within these guidelines will allow students to meet all requirements of the brief.

Strand	Strand total	Mark allocation per AO for Unit 3			
		AO1	AO2	AO3	AO4
a	7	4	-	3	-
b	9	3	4	2	-
c	9	2	3	4	-
d	4		2	2	-
e	4	-	-	-	4
Totals	**33**	**9**	**9**	**11**	**4**

(a) Unit 3: Artwork and Imaging – Design and develop graphic products (maximum 7marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–3 marks	The student has produced design ideas and plans that give little indication of how the products will function and what the user experience will be. They will have provided information about the elements required but only superficially and with few or no comments on the design decisions. The product design may be incomplete with no indication of a theme or link.
4–5 marks	The student has produced design ideas and plans that give a broad indication of how the products will function and what the user experience will be. They will have provided some relevant information about the elements required and made general comments on the design decisions. The product design will be complete but individual elements may lack a coherent theme or link.
6-7 marks	The student has produced design ideas and plans that give a reasonable indication of how the products will function and what the user experience will be. They will have provided clear information about the elements required and made specific comments on individual design decisions. The product design will be complete and individual elements will be linked visually and coherent in theme

(b) Unit 3: Artwork and Imaging – Create graphic elements (maximum 9 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–3 marks	The student has created at least two graphic elements demonstrating limited skill in the use of drawing and editing tools. They have provided little or no information about any of the elements produced or the tools used to produce them.
4–6 marks	The student has created at least two graphic elements demonstrating basic skill in the use of drawing and editing tools. They have provided general information about most of the elements produced and the tools used to create them.
7-9 marks	The student has created at least two graphic elements demonstrating adequate skill in the use of drawing and editing tools. They have provided specific information about all the elements produced and the tools used to create them.

(c) Unit 3: Artwork and Imaging – Produce artwork and images (maximum 9 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–3 marks	The student has used editing tools to produce limited or unfinished graphic products that meet some of the requirements of the project brief. Some features are appropriate for audience and purpose.
4–6 marks	The student has used editing tools to produce basic graphic products that meet most of the requirements of the project brief. Most features and elements are appropriate for the audience and purpose.
7–9 marks	The student has used editing tools to produce adequate graphic products, each of which meets all the requirements of the project brief, including suitability for the audience and purpose.

(d) Unit 3: Artwork and Imaging – Present work (maximum 4 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1-2 marks	The student has used suitable file types to save work and has provided access to most of the evidence through a single index page. There are links to evidence and products but these may not be clear.
3-4 marks	The student has used suitable file types and appropriate file names to present their work and has provided access to all of the evidence through a single index page, including clear links to both evidence and products.

(e) Unit 3: Artwork and Imaging – Review the products (maximum 4 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1-2 marks	The student has made descriptive comments on the strengths and weaknesses of their final products. They have gathered feedback from others but have not have responded to it in any meaningful way.
3-4 marks	The student has made reflective comments of their own on the strengths and weaknesses of individual assets and the final products produced. They have gathered feedback about the products and have responded with suggestions for further improvement.

Delivering Unit 3: Artwork and Imaging

There are real opportunities here to work collaboratively with colleagues teaching art and design or graphic products. However, it is also perfectly possible for students to be taught in discrete lessons. What is important is that whoever teaches this unit has a good grasp of graphics technical concepts such as file size, image size and colour models.

Students should be encouraged to evaluate a variety of images in terms of how well they serve the purpose for which they are intended. It may be useful to use group work. Asking a group of students to judge the success of a graphic product and present ideas to the wider group will be helpful in exploring a range of ideas and sources.

Students will work with images they have created themselves from primary sources and will need to gain experience in methods of image capture. It is vital that they are given access to a range of secondary sources, including photographs, image libraries, maps, etc.

It is important that students have access to a range of graphic software, including vector based and bitmap. They should be aware of the most suitable uses for each graphic type. They need opportunities to explore the tools and techniques of the software available to them.

The developmental process of producing artwork and images is crucial in ensuring its success. It would be useful for students to be introduced to a suitable design methodology. This approach will ensure that students store the stages in the development of their design accurately. Keeping a record of all their experiments is important for the final evidence. Students should be encouraged to allow others to feed back on their work.

It is important that students appreciate the need to prepare the graphics they produce for the intended medium, whether digital or print.

In preparing artwork and images for the screen and print, students need to be aware of factors such as resolution, colour, file format and size, and how they might impede the ability of the audience to view the graphic.

When producing a graphic for a particular purpose and audience, it is important that students continually test the product. It will be difficult for them to make extensive changes at the end of a project, as they have invested much time and energy in the idea. It is essential to build in periods of reflection at different stages during the development of the graphic. Peer support and feedback will be a useful strategy as it will help students to build their evaluative skills, while helping someone else.

There must be a thorough period of testing once the graphic has been produced. Students need to use a clear method of documentation to record the testing and correction cycle.

It is vital that suitable file formats are used for images and documents so that people can view or read them, even if they do not have the software that was used to create them installed on their computers.

Links to other units

This unit develops and builds on skills covered in *Unit 1: Developing Web Products*. It is recommended that students complete Unit 1 before undertaking this unit.

This unit also has links to *Unit 3: Artwork and Imaging* and *Unit 4: Game Making*.

Resources

Books

Chasemore R – *Basic Paint Shop Pro 8* (Payne-Gallway Publishers, 2004) ISBN 9781904467366

Tilley P and Gillies M – *Edexcel DiDA: Graphics* (Longman, 2005) ISBN 9781846901119

Software

Bitmap-based software

For example:

- Adobe Fireworks
- Adobe Photoshop
- Adobe Photoshop Elements
- Corel PaintShop Photo
- Serif PhotoPlus

Image database software

For example:

- iPhoto
- Picasa

Screen-recording software

For example:

- Adobe Captivate
- BB FlashBack
- MatchWare ScreenCorder
- TechSmith Camtasia

Vector-based software

For example:

- Adobe Fireworks
- Adobe FreeHand
- Adobe Illustrator
- CorelDRAW
- Serif DrawPlus
- SmartDraw

Unit 4: Game Making

Level: 1
Guided Learning Hours: 90

Introduction

This unit is about making games.

What makes some games better than others? What will appeal to different age groups?

You will learn how to plan, design and create simple games for others to play.

You will learn how to gather and prepare the assets you need, such as sounds and graphics.

You will learn how to combine all of these assets into a game and how to test it thoroughly, get feedback and make any necessary changes.

You will demonstrate your ability to design, build and test games through your work on a project set by Pearson.

Please refer to the '*Delivering Unit 4' and 'Resources'* section of this unit for guidance on the game-making skill expected at this level.

What you need to learn

4.1 Exploring computer games

You will look at different types of simple computer games, e.g. puzzles, mazes.

You will consider the following features of games:

- style, e.g. cartoon, retro, realistic
- platform, e.g. tablet, mobile phone, console
- game elements, e.g. sound effects, music, speech, story, characters, sprites, backgrounds, fonts
- game play, e.g. scoring, levels, rules, instructions, controls, interaction.

4.2 Producing a game overview

You will learn how to produce an overview of your initial ideas to show other people what you are planning, including:

- target audience
- key features (theme, purpose, how it will start, what players must do, characters, assets)
- PEGI rating
- platform.

You will learn how to ask for feedback from others on your overview and how to decide what changes to make.

4.3 Designing games for others to play

Games must be carefully designed if they are to work as intended and be fun to play.

You will learn how to produce designs for games, including:

- audience and purpose
- the game environment
- levels
- assets
- story
- challenges
- rules
- navigation and controls
- interaction.

You will learn how to make use of feedback from others on your designs and to be prepared to make changes if necessary.

You will learn how to keep a record of your progress, noting down your design decisions and why you made them.

4.4 Developing games for others to play

You will need to produce (gather, prepare and import) all the digital assets for the game, including:

- backgrounds
- objects
- sprites
- sounds.

You can use ready-made assets, providing you have permission to do so, or you may wish to produce some original assets of your own.

You must be able to:

- select sprite properties (size, background transparency)
- select colour/pattern
- produce and use sounds (created, sourced)
  - type (effect, music)
  - use (play once, looped, volume)
- select and use sound types, e.g. wav, midi, mp3
- select and create properties for game objects, e.g. visibility, opacity, depth, rotation, scale
- select game events associated with game objects
- trigger game events associated with mouse/keyboard (object movement and timings, collision detection, score)
- select and apply background
- select and apply effects
- select and apply player starting points.

The process of developing a game includes:

- creating features (scoring systems, events, controls, actions)
- testing that the game works (functionality, e.g. logic, rules, events, actions and controls, user instructions)
- getting feedback on the user experience (playability, interactivity).

4.5 Standard ways of working

While working on a project you will be expected to use ICT safely, efficiently and legally. You will learn about these standard ways of working:

- working safely
  - select and adjust system settings, e.g. privacy settings
  - take regular breaks
  - handle and store media correctly
  - use the internet in a responsible and safe way
- file management
  - save work regularly
  - use sensible filenames
  - set up directory/folder structures to organise files
  - make regular backups and versions to show progress
- personal effectiveness
  - select appropriate ICT tools and techniques
  - use available sources of help
- quality assurance
  - use quality assurance tools, e.g. spell and grammar check and print preview
  - proofread
  - seek views of others
  - test components
- legal issues
  - acknowledge sources
  - avoid plagiarism.

4.6 Reviewing games

You will learn how to review the strengths and weaknesses of your game by considering:

- how well it works
- how suitable it is for the target audience
- interactivity (controls, effects)
- functionality (logic)
- instructions (clarity, help)
- feedback
- responses to feedback.

4.7 Presenting work

You will learn how to present all the evidence of your work to others. It will be viewed on screen and will need to include:

- the digital product (the final game)
- supporting evidence
- suitable file types
- appropriate file names
- links to evidence and products from a single index page

How you will be assessed for Unit 4: Game Making

This unit takes a holistic approach to the assessment of knowledge, understanding and skills. You will demonstrate your knowledge and understanding of the content through how well you perform the tasks in the Summative Project Brief given to you.

It is expected that the Summative Project Brief will take you 30 hours to complete.

You will gain marks for:

(a)	Design and development work (9 marks)
(b)	Game functionality (7 marks)
(c)	User experience (9 marks)
(d)	Game review (4 marks)
(e)	Presenting work (4 marks)

Assessing students' work

Five activities are used to assess achievement in **Unit 4: Game Making**:

(a) Design and development	0-9 marks
(b) Game functionality	0-7 marks
(c) User experience	0-9 marks
(d) Game review	0-4 marks
(e) Present work	0-4 marks

Mark descriptions are written in bands. In each band, the description relates to the top of the band.

Whenever assessments are made, the mark descriptions given should be used to judge the mark which best fits the student's performance. Students should be placed in a band on a 'best fit' basis, making allowance for balancing the strengths and weaknesses in the work presented.

The Moderator's Toolkit stipulates the acceptable file formats for content. Work must be submitted in formats that will be accessible by the moderator. Work that cannot be accessed by the moderator (for example because files are corrupted, infected by viruses or presented in formats that are not acceptable) cannot be moderated.

Recommended file size limits are published in each Summative Project Brief (SPB). It should be noted that working within these guidelines will allow students to meet all requirements of the SPB.

Strand	Strand total	Mark allocation per AO for Unit 4			
		AO1	AO2	AO3	AO4
a	9	5	4	-	-
b	7	2	1	4	-
c	9	2	2	5	-
d	4	-	-		4
e	4	-	2	2	
Totals	**33**	**9**	**9**	**11**	**4**

(a) Unit 4: Game Making – Design and development (maximum 9 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–3 marks	The student has produced designs but they may be unclear in terms of how the game will look and play. They have provided broad information about the development process some of which may be irrelevant. They have gathered and prepared limited assets for the game that meet few, if any, requirements of the brief
4–6 marks	The student has produced designs that give a general indication of how the game will look and function and has provided relevant information about some aspects of the development process. They have gathered and prepared assets for the game that meet some of the requirements of the brief.
6–9 marks	The student has produced designs that give a clear indication of how the game will look and play. They have provided specific information about most aspects of the development process and have gathered and prepared assets for the game that meet most of the requirements of the brief.

(b) Unit 4: Game Making – Game functionality (maximum 7 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–3 marks	The student has produced a game that meets some requirements of the brief and that has limited functionality. There is little evidence of functionality testing. User instructions will be incomplete.
4–5 marks	The student has produced a game that meets most of the requirements of the brief and most actions function as intended. There is evidence that most events and actions have been tested. User instructions will be complete but may be unclear.
6–7 marks	The student has produced a game that meets all of the requirements of the brief and all actions function as intended. There is evidence that all events and actions have been tested. User instructions may be brief but clear.

(c) Unit 4: Game Making – User experience (maximum 9 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–3 marks	The student has produced a game with limited playability and only basic interactive features that have little appeal for the target audience. There is no evidence of usability testing.
4–6 marks	The student has produced a game with adequate playability and some interactive features appropriate for the target audience. The evidence of usability testing is minimal.
7–9 marks	The student has produced a game with reasonable playability and interactive features that appeal and sustain the interest of the target audience. There is evidence that some usability testing has been carried out.

(d) Unit 4: Game Making – Game review (maximum 4 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–2 marks	The student has made descriptive comments on the strengths and weaknesses of the final game. They have gathered feedback from others but may not have responded to it in any meaningful way.
3–4 marks	The student has made reflective comments on the strengths and weaknesses of individual assets and the final game. They have gathered feedback about the final game and have responded with suggestions for further improvement.

(e) Unit 4: Game Making – Presenting work (maximum 4 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–2 marks	The student has used suitable file types to save work and has provided access to most of the evidence through a single index page. There are links to evidence and products but they may not be clear.
3–4 marks	The student has used suitable file types and appropriate file names to present their work and provided access to all of the evidence through a single index page, including clear links to both evidence and products.

Delivering Unit 4: Game Making

Most students will already have plenty of experience of playing computer games but they may have little or no understanding of the process of creating a computer game. With this in mind, they must be given the opportunity to explore different types of computer games, considering their graphics, music and sound effects, playability, challenge, and originality.

Students will need to produce a game overview, an important stage in the development. They need to devote enough time to this stage to ensure that the initial ideas they come up with are viable given the limitations of the ICT tools available to them, their level and the amount of time they have to produce the finished game.

Students need to be taught about design and how to comment on key aspects of the design process, showing how they made decisions about their designs and developed them from initial ideas into a final product. They must learn how to gather and use feedback throughout the project. Using a 'test buddy' will give them honest and critical feedback and could be a key success factor.

Students need to be able to learn how to use software tools, including sound, graphics and authoring software, in order to prepare game assets and build their game. Suggestions for games-authoring software are given in the *Resources* section of this unit.

Selecting game-authoring software

At this level it is suggested that students use a game engine with a drag and drop interface to allow them to build up sequences of actions for different objects and in-game events. Students should not design a level within a pre-programmed game as this does not allow them to develop their own gameplay. At Level 1 it is expected that they would use a 2D game engine (although there is no exclusion on using 3D engines if the student or centre wishes to do so).

A finished game at this level may be relatively simple but should fulfil the requirements of the brief and be playable. An example at this level may be a game where a ball zigzags across a room and bounces off the walls: the aim being to click on the ball within a time limit to gain score, at which point the ball will jump to a different part of the room and progressively speed up.

Students do not have to create original game assets (although they may do so if they wish) but can gather and prepare sourced assets. When using found materials, students should be mindful of legal and other constraints and the importance of acknowledging sources. Most engines have assets that come with the engine or which can be downloaded as part of a tutorial and this is the best place to start. Tutors should also consider developing a library of royalty-free assets that students can select from when making their games.

Students must recognise that testing is an integral part of game creation. They will need to develop a testing strategy and a test plan. Test buddies have an important role to play in this process. Students need to be taught how to be a good test buddy. Among other things this is likely to entail attempting to 'bust' someone else's game!

Students will need to present their finished game and supporting materials in an appropriate format with evidence clearly signposted. Continual reflection of their own and others' work throughout will help them to produce a final review.

Links to other units

This unit develops and builds on skills covered in *Unit 1: Developing Web Products*. It is recommended that students complete Unit 1 before undertaking this unit.

This unit has links to *Unit 2: Creative Multimedia* and *Unit 3: Artwork and Imaging*.

Resources

Books

Bigelow D – *Construct Game Development Beginner's Guide* (PACKT 2012) ISBN 9781849516600

DeQuadros M – *GameSalad Beginner's Guide* (PACKT 2012) ISBN 9781849692205

Habgood J, Nielsen N, Crossley K and Rijks M – *The Game Maker's Companion* (Apress, 2010) ISBN 9781430228264

Habgood J, Overmars M – *The Game Maker's Apprentice: Game Development for Beginners* (Apress, 2006) ISBN 978-1590596159

The LEAD Project – *Super Scratch Programming Adventure!* 2nd edition (No Starch Press, 2013) ISBN 13 9781593275310

McManus, S – *Scratch Programming In Easy Steps* (In Easy Steps, 2013) ISBN 9781840786125

Thompson J and Berbank-Green B – *The Computer Game Design Course: Principles, Practices and Techniques for the Aspiring Game Designers* (Thames and Hudson, 2007) ISBN 9780500286586

Waller D – *Basic Projects in Game Maker* (Payne-Gallway, 2009) ISBN 9781905292578

Software

For game authoring at level 1

For example:

- Arcade Game Studio
- Game Develop
- Game Maker: Studio
- GameSalad Creator
- Multimedia Fusion
- RPG Maker
- Scratch

For sprite production

For example:

- Fireworks
- GIMP
- GraphicsGale http://www.humanbalance.net/gale/us/
- Photoshop
- ProMotion http://www.cosmigo.com/promotion/index.php
- Serif Draw Plus

For sound

For example:

- Anvil Studio
- Audacity
- Jamstudio (online)
- Magix Music Maker
- Soundation (online)

Video capture and editing software

For example:

- Adobe Premiere
- Apple iMovie
- Corel VideoStudio
- Final Cut Express
- Microsoft Moviemaker
- Pinnacle Studio 14

Screen-recording software

For example:

- Adobe Captivate
- BB FlashBack
- MatchWare ScreenCorder
- TechSmith Camtasia

Websites

gamesalad.com/ – GameSalad site with tutorials, includes some free assets but assets are mainly to buy

http://opengameart.org/ – a wide range of free assets, includes music, sound effects, sprites and backgrounds

http://www.widgetworx.com/spritelib/ – Ari Feldman's royalty-free sprite collection

scratch.mit.edu/ – Scratch website with a range of resources

soundbible.com/ – royalty-free sound effects

spriters-resource.com – sprite assets

www.bfxr.net/ – sound effect creation tool

www.charas-project.net/ – online sprite creation tool

www.freesound.org/ – royalty-free sound effects

www.pacdv.com/sounds/index.html – royalty-free sound effects

www.partnersinrhyme.com – royalty-free sound effects

www.scirra.com/construct2 – Construct 2 site with tutorials, includes some free assets but assets are mainly to buy

www.yoyogames.com – gamemaker site, tutorials and resources

Unit 5: Coding for the Web

Level: 1
Guided Learning Hours: 30

Introduction

Do you want to be able to create modern, interactive websites? Then you need to have control over the programming languages that power the web.

This unit is about front-end web development. You will learn coding methods and techniques using HTML, CSS and JavaScript. These are the fundamental technologies for building web pages and they are executed in the web browser so you will learn how to program your web pages to render in an appropriate browser.

You will demonstrate your ability to combine HTML, CSS and JavaScript together through your response to a client brief set by Pearson.

What you need to learn

5.1 Writing code

You will need to write and edit HTML and CSS codes. This can be done using:

- a text editor
- an HTML editor
- the code view of a visual editor.

When structuring your files, you need to:

- create a directory structure with
  - a top-level folder (root folder)
  - sub-directories, e.g. img, js, css
- adopt appropriate file-naming conventions:
  - index.html (homepage)
  - lower-case file names
  - separating words with a dash
- save files in an appropriate format, e.g. HTML
- use relative and absolute URLs to link to assets and other web pages.

5.2 Planning

As part of the planning for a website project, you will learn how to create a site map and a wireframe showing:

- page size
- the key information to be included on each page
- the size and position of the information.

5.3 HTML

HTML describes the structure of web pages. You will learn how to write and edit:

- HTML elements – opening and closing tags, attributes and values
- structural elements – DOCTYPE, html, head, meta, title, link and body
- organisational elements – div, span, table
- global attributes – class, id, title
- elements that control text – headings, paragraph, bold and italic, line break, horizontal rule
- elements and attributes that control images – adding images, specifying height and width, alternate text
- links – <a> element and href attribute, internal, external, email
- lists – ordered, unordered, definition, nested.

5.4 Styling with CSS

Cascading Style Sheets (CSS) control the presentation of the page content. You will learn how to write and edit:

- internal and/or external style sheets
- CSS rules
  - selector and declaration blocks (containing properties and values)
  - referencing – elements, attributes, e.g. id attribute or class attribute
- units – pixel, percentage, em
- colour – names, hexadecimal numbers, RGB
- properties that style text – font-family, font-size, font-style, font-weight, line-height, text-decoration, text-align
- properties that style links – link, visited, focus, hover, active
- properties that style boxes – background, display, width and height, margin and padding, border, overflow
- properties that style images – size, aligning images, background images, image rollovers and sprites.

5.5 Controlling layouts with CSS

CSS can also be used to create the layout. You will learn how to position elements using:

- normal flow
- relative positioning
- absolute positioning
- fixed positioning
- floating elements and clearing floats.

You will also have to prioritise and organise your content by:

- creating a visual hierarchy through
  - size
  - colour
  - style
- grouping similar elements
- minimising scrolling.

5.6 Creating tables for information

A table represents information in a grid format. You will learn how to write and edit:

- HTML elements that control tables – table, row, cell, headings, spanning columns and rows
- CSS properties that style tables, e.g. padding on cells, headings, shading alternate rows, aligning numerals.

5.7 JavaScript

JavaScript is a client-side scripting language that enables interactivity. You need to learn how to incorporate JavaScript into HTML to control an image slider/gallery or carousel.
This will involve:

- incorporating JavaScript into the page by either
  - embedding the JavaScript into the HTML with the script element
  - linking to an external .js file
- creating and editing JavaScript which may include variables, conditionals, loops, functions, event attributes and properties
- using JavaScript libraries, e.g. JQuery.

5.8 Testing and review

Browser developer tools allow you to inspect, edit, debug, log and profile HTML, CSS and JavaScript.
You will test your web pages in a modern browser and complete a test log to record that the:

- pages load all of the required content
- pages function as intended
- layout is as intended.
-

You will also consider:

- feedback from users (test buddies)
- the strengths and weaknesses of the finished website
- how to improve the website.

How you will be assessed for Unit 5: Coding for the Web

This unit takes a holistic approach to the assessment of knowledge, understanding and skills. You will demonstrate your knowledge and understanding of the content through how well you perform the tasks in the Summative Project Brief that will be given to you.

The Summative Project Brief will require you to combine HTML, CSS and JavaScript to create a website, using a client brief.

It is expected the project will take you 10 hours to complete.

You will be expected to:

(a) Plan, write and edit HTML (9 marks)
(b) Write and edit CSS (9 marks)
(c) Incorporate interactive elements through JavaScript (7 marks)
(d) Create page layouts (4 marks)
(e) Test and review (4 marks)

Assessing students' work

Five activities are used to assess achievement in **Unit 5: Coding for the Web:**

(a) Plan, write and edit HTML	0-9 marks
(b) Write and edit CSS	0-9 marks
(c) Incorporate interactive elements through JavaScript	0-7 marks
(d) Create page layouts	0-4 marks
(e) Test and review	0-4 marks

Mark descriptions are written in bands. In each band, the description relates to the top of the band.

Whenever assessments are made, the mark descriptions given should be used to judge the mark which best fits the student's performance. Students should be placed in a band on a 'best fit' basis, making allowance for balancing the strengths and weaknesses in the work presented.

The Moderator's Toolkit stipulates the acceptable file formats for content. Work must be submitted in formats that will be accessible by the moderator. Work that cannot be accessed by the moderator (for example because files are corrupted, infected by viruses or presented in formats that are not acceptable) cannot be moderated.

Recommended file size limits are published in each Summative Project Brief (SPB). It should be noted that working within these guidelines will allow students to meet all requirements of the SPB.

Strand	Strand total	Mark allocation per AO for Unit 5			
		AO1	AO2	AO3	AO4
a	9	3	3	3	-
b	9	3	3	3	-
c	7	1	1	5	-
d	4	1	1	2	-
e	4	-	-	1	3
Totals	**33**	**8**	**8**	**14**	**3**

(a) Plan, write and edit HTML (maximum 9 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1-3 marks	The student has produced minimal evidence of planning regarding the structure of the pages: • few, if any, HTML elements are used on the pages • at least one functioning internal link is included • images are included on at least one page but may not be in proportion • table elements are used to present information but the information is not easy to understand.
4-6 marks	The student has produced some evidence of planning regarding the structure of at least one page, for example a simple wireframe for one page but without measurements or with unrealistic measurements: • some HTML elements are used on at least one page to describe the structure of the page. • the internal links are functional and at least one functioning external/email link is included. • images are not necessarily included on every page, but they are generally in proportion. • table elements are used to present information clearly but not fully in accordance with the client brief.
7-9 marks	The student has produced most of the evidence required for planning the structure of the pages, for example, a wireframe with appropriate measurements. • some HTML elements are used on every page to describe the structure of the page. • most of the links – internal, external, email – are functional. • images are included on every page and are in proportion. • table elements are used to present information clearly and in accordance with the client brief.

(b) Write and edit CSS (maximum 9 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1-3 marks	There is limited evidence of the use of a style sheet – internal or external – to style text (typeface, size, style, colour), boxes (background colour), tables and/or links.
4-6 marks	Students will have created an internal or external style sheet to: • present text on at least one page, e.g. typeface, size, style, colour, alignment • style boxes on at least one page, e.g. background colour, border, margin and padding • style links, although they may vary between pages, e.g. link, visited, hover and/or active.
7-9 marks	Students will have created an internal or external style sheet to: • present text consistently on more than one page, e.g. typeface, size, style, colour, alignment • style boxes consistently on more than one page, e.g. background colour, border, margin and padding • style tables, e.g. padding, headings, shading, alignment • style links consistently on every page, e.g. link, visited, hover and/or active.

(c) Incorporate interactive elements through JavaScript (maximum 7 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1-3 marks	An interactive element requiring JavaScript is incorporated on a page but either does not function appropriately in any browser or the inclusion of the (functional/partially functional) interactive element does not contribute meaningfully to the user experience.
4-5 marks	An interactive element requiring JavaScript is incorporated on the specified page and functions, although only partially, in at least one browser. The content of the interactive feature is appropriate for the brief and the inclusion of the interactivity adds to the user experience.
6-7 marks	At least one interactive element requiring JavaScript is incorporated on the specified page and is fully functional in at least one browser. The content of the interactive feature is imaginative in relation to the brief and the inclusion of the interactivity adds considerably to the user experience. The interactive element matches the style of the page, e.g. colour, border, design of previous/next arrows.

(d) Create page layouts (maximum 4 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1-2 marks	Some basic sense of a visual hierarchy is used on at least one page to communicate the relative importance of information but the layout of elements on the page may not resemble the student's wireframe. The screen resolution may be too small for most modern browsers and therefore the user may have to scroll across the page to find a significant amount of information. Either text or images are likely to dominate the layout of most, or all, pages. The pages render with only a small amount of missing content in at least one browser.
3-4 marks	The layout of elements on the page resembles the student's wireframe. A visual hierarchy is used on each page to communicate the relative importance of information. The choice of screen resolution means that most of the information is visible without significant scrolling. There is an appropriate balance between text and images on most pages and the pages are easily navigable. The pages render without missing content in at least one browser.

(e) Test and review (maximum 4 marks)

Mark	Mark descriptions
0 marks	No rewardable content.
1–2 marks	The student has created a test log but has made only minimal or partial comment on the functionality of the HTML/CSS/JavaScript and other page elements, few of which are meaningful. They have responded to feedback from users but have made few suggestions for improvement.
3-4 marks	The student has created a test log and has made comments on the functionality of the HTML/CSS/JavaScript and other page elements, most of which are meaningful. They have responded to feedback from users and made some appropriate suggestions for improvements.

Delivering Unit 5: Coding for the Web

This unit introduces students to the main programming languages involved in front-end web design: HTML, CSS and JavaScript. Students are *not* expected to learn server-side scripting languages such as PHP, ASP.NET, Ruby and Python.

In order to understand the structure of a website's programming script, students should be encouraged to look at the source code of the websites they visit.

Students should be familiar with the importance of wireframes in the production process. They will need to create their own site structures and wireframes as part of the planning process and careful note should be taken of the client's requirements for each page in the site, as established in the brief.

Students will use HTML to build the overall structure of their web pages, however the design and layout of the site should be controlled through Cascading Style Sheets (CSS). This will allow students to separate content from presentation so that they can change the way the site looks without having to change the way it works. Students should be able to use internal and external style sheets.

JavaScript is a powerful scripting language commonly used to create the dynamic, interactive elements of a web page. As it can run in the browser, responding to user actions immediately rather than going back to the server, it is possible for students to experiment with JavaScript on their web pages. Students should be able to incorporate JavaScript into their pages to add functionality, for example to add an image slider to the page, although students will not be expected to write JavaScript from scratch.

Adding tables to present information and styling them is also part of coding for the web, it will give students an opportunity to develop the skills they learned in *Unit 1: Developing Web Products.*

Testing how the pages render in a web browser is an integral part of the coding process. Students will have to complete a test log to compare the actual outcomes with the intended outcomes and should be encouraged to evaluate the strengths and weaknesses of the finished product in order to identify possible improvements.

Links to other units

This unit develops and builds on skills covered in *Unit 1: Developing Web Products* and it is therefore recommended that this unit be delivered after or alongside Unit 1.

Resources

Books

Castro E & Hyslop B – *HTML5 & CSS3: Visual QuickStart Guide* (Peachpit Press, 2011) ISBN 9780321719614

Duckett J – *HTML & CSS* (John Wiley & Sons, 2011)

ISBN 9781118008188

Duckett J – *JavaScript & JQuery: Interactive Front-end Web Development* (John Wiley & Sons, 2014)

ISBN 9781118531648

McManus S – *Web Design In Easy Steps* (In Easy Steps, 2011) ISBN 9781840783803

Magazines

.net

Web Designer

Software

Text editors

For example:

- Notepad
- TextEdit
- TextPad
- TextWrangler

HTML editors

- Coda
- Sublime Text
- TextMate

Web-authoring software

For example:

- Adobe Dreamweaver
- Microsoft Front Page
- Serif WebPlus

Image manipulation software

For example:

- Adobe Fireworks
- Adobe Photoshop
- Serif PhotoPlus

Browser developer tools
For example:
- Chrome: Developer Tools
- Firefox
- Internet Explorer
- Opera: Dragonfly
- Safari: Web Inspector

Websites

CodeSchool's JavaScript Path – www.codeschool.com/paths/javascript

JavaScript Testing – www.jslint.com

J Query – www.jQuery.com

W3C Validators – www.validator-suite.w3.org

World Wide Web Consortium – www.w3.org

Assessment information for internally assessed units

Controls for task setting

Each unit will be assessed only through a Summative Project Brief (SPB). Each unit has its own SPB.

The SPB will present students with a scenario, requiring them to produce digital products that meet the requirements outlined in the brief. Students will draw on knowledge, skills and understanding from across the relevant unit, integrating them into a synoptic piece of work.

The SPBs will be available *only* in the CiDA/DiDA qualification section of the Pearson website www.edexcel.com.

An SPB will be released for each unit once every year in September. The SPBs are live and usable for two years.

Controls for task taking

SPBs are subject to controls that define the conditions under which they are taken.

Supervision and authentication of student work

Unless specifically stated, students are able to work on the SPB only in a lesson, under the supervision of a teacher. This means that there must be adequate supervision to ensure that work can be authenticated.

All work, including any manipulation or development of material, must be carried out under supervision in the classroom. Any material brought into the classroom must be checked by the teacher to ensure that it can be authenticated as the student's own work. At the end of the lesson, all of the student's materials, paper based and electronic, must be collected, stored securely and handed back at the beginning of the next session.

The role of the test buddy and end-of-project reviewer

Each student will work with a test buddy and end-of-project reviewer to give and receive feedback on their product designs, prototype products and final product. Students must be made aware of what is expected from both the test buddy and the end-of-project reviewer: both can comment on the 'what' (what they think is good and what they think could be improved) but they cannot feedback on the 'how' (for example how to make changes or specific solutions to any problems).

Feedback and collaboration at each stage of the project

The controlled assessment task for each unit can be divided into three broad stages. The level of feedback and collaboration allowed varies between stages, as outlined below.

Proposal/design/game overview

This stage starts with students being given the SPB and ends when the proposal/design /game overview has been completed and all additional assets gathered.

Students must work individually to come up with their own proposal/design/game overview.

Teachers can provide feedback on the planned approach, such as highlighting strengths, weaknesses and possible problems with the planned product(s) and approach, but they must not suggest or direct students towards, specific solutions.

Students can receive feedback on the proposal/design/game overview from their test buddy (see *The role of the test buddy and end-of-project reviewer*) and use it to modify their proposal/design/game overview before seeking approval from the teacher.

Building and development

This stage covers all the work that takes place after the proposal/design/game overview has been completed. It ends when all products are complete but before the review begins.

Students must work individually to build and develop their products.

Teachers can provide feedback at the beginning of this stage, for example highlighting strengths, weaknesses and problems with the planned designs but they must not suggest or direct students towards specific solutions.

The teacher must not provide feedback on the final products but can suggest general questions for students to consider (which will be useful in the review), for example 'How do you think x looks?', 'How do you think x could be improved?'.

Students can receive feedback from their test buddy (see *The role of the test buddy and end-of-project reviewer* above) on building and development and incorporate it in their final products.

Review

Students must work individually to complete the review.

Before starting their review, students must collate feedback from their test buddy and gather feedback from their end-of-project reviewer on the final product (see *The role of the test buddy and end-of-project reviewer*) which will be incorporated into the final review. No other feedback from any source is allowed.

Time

For **mandatory** units centres should allow 10 hours for students to complete their Summative Project Briefs.

As a guide for Unit 1, it is recommended that the time is divided up as follows:

- Design and select, prepare and present appropriate content – 4 hours
- Create and develop a functional website – 5 hours
- Review – 1 hour.

As a guide for Unit 5, it is recommended that this time is divided up as follows:

- Plan, write and edit HTML and CSS and create page layouts – 7 hours
- Develop interactive elements – 2 hours
- Test log – 1 hour.

For **optional** units centres should allow 30 hours for students to complete their Summative Projects Briefs.

As a guide, it is recommended that the time is divided up as follows:

- Proposal/game overview – 5 hours
- Design, building and development – 22 hours
- Review – 3 hours.

Resources

The same range of resources must be made available to all students within a centre. Resources to include:

- the internet
- relevant software programs
- relevent general guidance documents (electronic or paper), for example software user manuals.

Students must **not** be provided with:

- any guidance or exemplars that are specific to the project being undertaken (such as examples of work that have been created on the same SPB)
- writing frames.

Authentication

All students must sign the authentication statement included in the Assessor Record Sheet in *Annexe C*. Statements relating to work not sampled should be held securely by the centre. Statements that relate to sampled students must be included with the work sent to the moderator.

Any student unable to provide an authentication statement will receive zero credit for the component. Where credit has been awarded by a centre-assessor to sampled work without an accompanying authentication statement, the moderator will inform Pearson and the mark will be adjusted to zero.

Submission of work to the teacher

Students must present their work for all units as outlined in the corresponding Summative Project Brief (SPB). They will need to understand the difference between document creation and document publication, and to distinguish between file formats appropriate for document creation and file formats appropriate for viewing.

All work must be presented so that its contents can be accessed using the Moderator's Toolkit: www.edexcel.com/quals/cida/spbs/Pages/moderators-toolkit.aspx

Recommended file size limits are published in each SPB. Working within these guidelines will allow students to meet all requirements of the brief.

Marking, standardisation and moderation

The SPB is marked by centre staff using the mark scheme provided at the end of each unit. Where marking for this has been carried out by more than one teacher in a centre, there must be a process of internal standardisation carried out to ensure that there is a consistent application of the criteria laid down in the mark schemes across all the units.

Marks awarded by the centre will be subject to external moderation by Pearson. This is to ensure consistency with national standards. Following the submission of marks, Pearson will notify centres of the students whose work has been selected for moderation.

Work must be submitted in an approved digital format.

If the moderation indicates that centre assessment does not reflect national standards, an adjustment will be made to students' final marks to compensate.

Security and backups

It is the responsibility of the centre to keep the work that students have submitted for assessment secure. Centres are strongly advised to utilise firewall protection and virus-checking software and to employ an effective backup strategy so that an up-to-date archive of students' evidence is maintained.

Centres are advised to archive completed, assessed work so as to free up work space for work in progress.

Language of assessment

Assessment of these units will be available in English. All student work must be in English.

Further information

For more information on annotation, authentication, mark submission and moderation procedures, please refer to the CiDA/DiDA qualification section of the Pearson website.

For up-to-date advice on teacher involvement, please refer to the *Joint Council for Qualifications (JCQ) Instructions for conducting coursework* document on the JCQ website: www.jcq.org.uk.

For up-to-date advice on malpractice and plagiarism, please refer to the Joint Council for Qualifications (JCQ) *Suspected Malpractice in Examinations and Assessments* document on the JCQ website (www.jcq.org.uk).

Grading information

The Pearson Edexcel Level 1 Certificate and Diploma in Digital Applications are awarded using uniform marks, which are derived from subject raw marks. The conversion from raw marks to uniform marks will be determined at an awarding meeting.

Qualification awards

The Pearson Edexcel Level 1 Certificate in Digital Applications (CiDA)

Unit 1 is mandatory.

One unit from optional Units 2, 3 and 4 must also be completed.

Level 1	**Uniform mark totals**		
	Unit 1	Units 2, 3, 4	CiDA cash-in
Maximum	20	60	80
A*	16	48	64
A	14	42	56
B	12	36	48
C	10	30	40

Please note: Level 1 Grades A*-C are equivalent in value to GCSE grades D-G.

The Pearson Edexcel Level 1 Diploma in Digital Applications (DiDA)

Units 1 and Unit 5 are mandatory.

Two units from optional Units 2, 3 and 4 must also be completed.

Level 1	**Uniform mark totals**			
	Unit 1	Unit 5	Units 2, 3, 4	DiDA cash-in
Maximum	20	20	120	160
A*	16	16	96	128
A	14	14	84	112
B	12	12	72	96
C	10	10	60	80

Please note: Level 1 Grades A*-C are equivalent in value to GCSE grades D-G.

Level 1 grade descriptors

A*

Grade A* students will demonstrate the ability to carry out competent design work. Product designs will be complete with some sense of a coherent theme or link across elements. Comments about design decisions will be specific showing some consideration for how the products will function and what the user experience will be.

Students will select content for their digital products. Most of the content selected will be suitable for the intended purpose. Students will demonstrate adequate skill in the use of digital tools and media.

Students create assets and complete products which meet the requirements of the project brief and demonstrate an awareness of audience and purpose. They are able to reflect on their work and comment on the strengths and weaknesses of the assets used as well as the final products they produce.

Students will present work using appropriate file types and file names which provide access to all of the evidence through a single index page.

C

Grade C students will demonstrate limited ability to carry out design work. Product designs may be incomplete and any sense of a coherent theme or link across elements will be minimal. Comments about design decisions will be non-specific and general in tone giving only a limited indication of how the products will function and what the user experience will be.

Students will gather content for their digital products. The link between the gathered content and the intended purpose will be unclear and students will demonstrate only basic skill in the use of digital tools and media.

Students will create assets that may be unfinished or that fulfil few requirements of the brief. They will make descriptive rather than reflective comments about the assets used and the final products they produce. Comments will be limited and few will be meaningful.

Students will present work using appropriate file types that provide access to some of the evidence through a single index page.

Additional information

Registration and entry

Pearson operates a registration system for the Pearson Edexcel Level 1 Certificate and Diploma in Digital Applications. Centres must register all students who intend to follow these qualifications at the start of the academic year in which they begin their study.

The registration codes are:

- CIDA – Pearson Edexcel Level 1 Certificate in Digital Applications (CiDA)
- DIDA – Pearson Edexcel Level 1 Diploma in Digital Applications (DiDA).

Further information on registration and entry procedures can be found in our *UK Information Manual*, available on our website.

Unit codes

Unit	Title	Level	Unit code
1	Developing Web Products	1	DA101
2	Creative Multimedia	1	DA102
3	Artwork and Imaging	1	DA103
4	Game Making	1	DA104
5	Coding for the Web	1	DA105

Cash-in

Centres wishing to claim a qualification for a student in a particular examination series can do so by making an entry for a cash-in, along with any unit entries required in that examination series. To be eligible for a particular claim the student must have completed the required number of units.

Availability of assessment

The first assessment opportunity for all units will take place in the February 2015 series and in each following June and January series for the lifetime of the specification.

	June 2015	January 2016	June 2016
Unit 1	✓	✓	✓
Unit 2	✓	✓	✓
Unit 3	✓	✓	✓
Unit 4	✓	✓	✓
Unit 5	✓	✓	✓

Resitting of units

Individual units may be retaken prior to claiming certification for the qualification provided the Summative Project Brief (SPB) used is within its lifespan at the time of submission.

The best available result for each unit will count towards the final grade.

Results of units will be held in Pearson's unit bank for as many years as this specification remains available.

Further information regarding cash-in procedures can be found in our *UK Information Manual*.

Awarding and reporting

The grading, awarding and certification of these qualifications complies with the requirements of the *GCSE, GCE, Principal Learning and Project Code of Practice (Ofqual, 2011)*.

The qualification will be graded on a four-grade scale. Individual unit results will be published.

Forbidden combinations and discount codes

Every qualification is assigned a national discount code by DfE indicating the subject area to which it belongs.

Centres should be aware that students who enter for more than one qualification with the same discount code at Level 1 will have only one grade (the highest) counted for the purpose of the school and college performance tables.

Access and recruitment

Pearson's policy regarding access to our qualifications is that:

- they should be available to everyone who is capable of reaching the required standards
- they should be free from any barriers that restrict access and progression
- there should be equal opportunities for all those wishing to access the qualifications.

Centres are required to recruit students to our qualifications with integrity.

Applicants will need relevant information and advice about the qualification to make sure it meets their needs.

Centres should review the applicant's prior qualifications and/or experience, considering whether this profile shows that they have the potential to achieve the qualification.

For students with disabilities and specific needs, this review will need to take account of the support available to the student during teaching and assessment of the qualification. The review must take account of the information and guidance in the section *Access to qualifications for learners with disabilities or specific needs*.

Students may be aged between 14 and 16 and therefore potentially vulnerable. Where students are required to spend time and be assessed in work settings, it is the centre's responsibility to ensure that the work environment they go into is safe.

Access to qualifications for students with disabilities or specific needs

Equality and fairness are central to our work. Pearson's Equality Policy requires all students to have equal opportunity to access our qualifications and assessments. It also requires our qualifications to be awarded in a way that is fair to every student.

We are committed to making sure that:

- students with a protected characteristic (as defined by the Equality Act 2010) are not, when they are undertaking one of our qualifications, disadvantaged in comparison to students who do not share that characteristic
- all students achieve the recognition they deserve from undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.

Students taking a qualification may be assessed in British sign language or Irish sign language where it is permitted for the purpose of reasonable adjustments.

Further information on access arrangements can be found in the Joint Council for Qualifications (JCQ) document *Access Arrangements, Reasonable Adjustments and Special Consideration for General and Vocational qualifications*.

Details on how to make adjustments for students with protected characteristics are given in the document *Pearson Supplementary Guidance for Reasonable Adjustment and Special Consideration in Vocational Internally Assessed Units*.

Both documents are on our website at: www.edexcel.com/policies

Further information and useful publications

Professional development and training

Pearson supports UK and international customers with training related to our qualifications. This support is available through a choice of training options offered on our website: www.edexcel.com/resources/Training.

The support we offer focuses on a range of issues, such as:

- planning for the delivery of a new programme
- planning for assessment and grading
- developing effective assignments
- building your team and teamwork skills
- developing learner-centred learning and teaching approaches
- building in effective and efficient quality assurance systems.

The national programme of training we offer is on our website at: www.edexcel.com/resources/Training. You can request centre-based training through the website or you can contact one of our advisers in the Training from Pearson UK team via Customer Services to discuss your training needs.

Training and support for the lifetime of the qualifications

Training and networks: our training programme ranges from free introductory events through sector-specific opportunities to detailed training on all aspects of delivery, assignments and assessment. We also host some regional network events to allow you to share your experiences, ideas and best practice with colleagues in your region.

Regional support: our team of Curriculum Development Managers and Curriculum Support Consultants, based around the country, are responsible for providing advice and support in centres. They can help you with planning and curriculum developments.

To get in touch with our dedicated support teams please visit: www.edexcel.com/contactus

Key publications

- *Adjustments for candidates with disabilities and learning difficulties – Access and Arrangements and Reasonable Adjustments, General and Vocational qualifications* (Joint Council for Qualifications (JCQ))
- *Equality Policy* (Pearson)
- *Recognition of Prior Learning Policy and Process* (Pearson)
- *UK Information Manual* (Pearson)
- *UK Quality Vocational Assurance Handbook* (Pearson).

All of these publications are available on our website.

Our publications catalogue lists all the material available to support our qualifications. To access the catalogue and order publications, please go to www.edexcel.com/resources/publications/Pages

Annexe A: Mapping to Key Stage 4 Programme of Study for Computing

The table below explains which aspects of the Key Stage 4 Programme of Study for Computing are covered within the Pearson Edexcel Level 1 Certificate and Diploma in Digital Applications.

The Key Stage 4 Programme of Study for Computing states that:
'*All pupils must have the opportunity to study aspects of information technology and computer science at sufficient depth to allow them to progress to higher levels of study or to a professional career*.'

All pupils should be taught to:	**Extent of coverage of KS4 Programme of Study for Computing within the Pearson Edexcel Level 1 Certificate and Diploma in Digital Applications**
a) Develop their capability, creativity and knowledge in computer science, digital media and information technology	The focus of all the units is on digital media and elements of information technology. For example, in all units students explore, develop and interpret information to produce digital solutions that meet users' needs. Some limited aspects of computer science are covered. For example: • some computational thinking is required to deconstruct problems into sub-problems • coding in Unit 5 (DiDA).
b) Develop and apply their analytic, problem-solving, design, and computational thinking skills	In all units students work to a brief that requires them to design and make a variety of digital products. They have to decide what type of information (text, images, sounds, video, animation etc.) is required and where they will get it from. For example: • when drafting of initial designs before starting to build the products they have been asked to create (Unit 1 and Unit 3) • when creating storyboards and other design documentation to illustrate what their products will look like and how they will function (Unit 2 and Unit 4). However, since students are not expected to produce systems that manipulate data, there is no requirement for them to produce representations of a system including inputs, outputs and processes used.

All pupils should be taught to:	**Extent of coverage of KS4 Programme of Study for Computing within the Pearson Edexcel Level 1 Certificate and Diploma in Digital Applications**
c) Understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to identify and report a range of concerns.	In all of the optional units students are expected to use ICT safely, efficiently and legally. As part of working safely students are expected to: o select and adjust system settings including privacy settings o take regular breaks o handle and store media correctly o use the internet in a responsible and safe way.

Annexe B: Synoptic Assessment

Synoptic assessment in the next generation Pearson Edexcel Level 1 Certificate and Diploma in Digital Applications (CiDA/DiDA) qualifications is embedded throughout the units of study. *Unit 1: Developing Web Products* (CiDA) and *Unit 5: Coding for the Web* (DiDA), provide essential knowledge, understanding and skills required to underpin the content of the optional specialist units. Students studying these qualifications are able to demonstrate a number of synoptic approaches towards meeting the assessment criteria, including:

- developing an appreciation of how tools and techniques relate to one another, and how each may contribute to different uses and applications of creative computing
- demonstrating their ability to use and apply a range of different methods and/or techniques, for example following the same project life cycle to investigate, design, create, test and review
- synthesising information and techniques from different creative computing activities
- demonstrating use of transferable skills, for example independent learning skills
- demonstrating analytical and interpretation skills, for example when testing products
- assessing their decisions, choices and recommendations, for example when reviewing products.

Annexe C: Centre assessor sheets

Unit 1: Developing Web Products				
Centre name:			Centre number:	
Candidate name:			Candidate number:	
Strand		Max mark	Mark awarded	Comments – *comment box expands as you start entering text*
(a)	Design page layout	0-6		
(b)	Select, prepare and present content	0-7		
(c)	Create web pages using web authoring software	0-7		
(d)	Produce a functional website	0-9		
(e)	Review the website	0-4		
		TOTAL		

Assessor declaration

I declare that the work submitted for assessment has been carried out without assistance other than that which is acceptable under the scheme of assessment.

Assessor name:			
Assessor signed:		Date:	

Candidate declaration

I certify that the work submitted for this assignment is my own. I have clearly referenced any sources used in the work. I understand that false declaration is a form of malpractice.

Candidate signed:		Date:	
Additional candidate declaration			
By signing this additional declaration you agree to your work being used to support Professional Development, Online Support and Training of both Centre-Assessors and Pearson Moderators. If you have any concerns please email: ePortfolio@pearson.com		Sign:	

Unit 2: Creative Multimedia				
Centre name:				Centre number:
Candidate name:				Candidate number:
Strand		Max mark	Mark awarded	Comments – *comment box expands as you start entering text*
(a)	Design multimedia products	0–7		
(b)	Produce digital assets	0–9		
(c)	Develop multimedia products	0–9		
(d)	Present work	0–4		
(e)	Review the products	0–4		
		TOTAL		

Assessor declaration

I declare that the work submitted for assessment has been carried out without assistance other than that which is acceptable under the scheme of assessment.

Assessor name:			
Assessor signed:		Date:	

Candidate declaration

I certify that the work submitted for this assignment is my own. I have clearly referenced any sources used in the work. I understand that false declaration is a form of malpractice.

Candidate signed:		Date:	
Additional candidate declaration			
By signing this additional declaration you agree to your work being used to support Professional Development, Online Support and Training of both Centre-Assessors and Pearson Moderators. If you have any concerns please email: ePortfolio@pearson.com		Sign:	

Unit 3: Artwork and Imaging				
Centre name:				Centre number:
Candidate name:				Candidate number:
Strand		Max mark	Mark awarded	Comments – *comment box expands as you start entering text*
(a)	Design and develop graphic products	0–7		
(b)	Create graphic elements	0–9		
(c)	Produce images and artwork	0–9		
(d)	Present work	0–4		
(e)	Review the products	0–4		
		TOTAL		

Assessor declaration

I declare that the work submitted for assessment has been carried out without assistance other than that which is acceptable under the scheme of assessment.

Assessor name:			
Assessor signed:		Date:	

Candidate declaration

I certify that the work submitted for this assignment is my own. I have clearly referenced any sources used in the work. I understand that false declaration is a form of malpractice.

Candidate signed:		Date:	
Additional candidate declaration			
By signing this additional declaration you agree to your work being used to support Professional Development, Online Support and Training of both Centre-Assessors and Pearson Moderators. If you have any concerns please email: ePortfolio@pearson.com		Sign:	

Unit 4: Game making				
Centre name:				Centre number:
Candidate name:				Candidate number:
Strand		Max mark	Mark awarded	Comments – *comment box expands as you start entering text*
(a)	Design and development work	0–9		
(b)	Game functionality	0–7		
(c)	User experience	0–9		
(d)	Game review	0-4		
(e)	Presenting work	0–4		
		TOTAL		

Assessor declaration

I declare that the work submitted for assessment has been carried out without assistance other than that which is acceptable under the scheme of assessment.

Assessor name:			
Assessor signed:		Date:	

Candidate declaration

I certify that the work submitted for this assignment is my own. I have clearly referenced any sources used in the work. I understand that false declaration is a form of malpractice.

Candidate signed:		Date:	
Additional candidate declaration			
By signing this additional declaration you agree to your work being used to support Professional Development, Online Support and Training of both Centre-Assessors and Pearson Moderators. If you have any concerns email: ePortfolio@pearson.com		Sign:	

Unit 5: Coding for the Web				
Centre name:				Centre number:
Candidate name:				Candidate number:
Strand		Max mark	Mark awarded	Comments – *comment box expands as you start entering text*
(a)	Plan, write and edit HTML	0-9		
(b)	Write and edit CSS	0-9		
(c)	Incorporate interactive elements through JavaScript	0-7		
(d)	Creating page layouts	0-4		
(e)	Test and review	0-4		
		TOTAL		

Assessor declaration

I declare that the work submitted for assessment has been carried out without assistance other than that which is acceptable under the scheme of assessment.

Assessor name:			
Assessor signed:		Date:	

Candidate declaration

I certify that the work submitted for this assignment is my own. I have clearly referenced any sources used in the work. I understand that false declaration is a form of malpractice.

Candidate signed:		Date:	
Additional candidate declaration			
By signing this additional declaration you agree to your work being used to support Professional Development, Online Support and Training of both Centre-Assessors and Pearson Moderators. If you have any concerns please email: ePortfolio@pearson.com		Sign:	

April 2014

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