edexcel

CiDA

Pearson Edexcel Level 2 Certificate
in Digital Applications

Getting Started Guide

Inspiring. Creative.
Contemporary.

Pearson

Pearson Edexcel Level 2 Certificate in Digital Applications

Getting Started Guide

Contents

Introduction

The Pearson Edexcel Level 2 Certificate in Digital Applications (CiDA) has been designed to teach digital design skills and to enable young people to use digital tools to express their creativity in an informed and responsible way. It aims to equip young people with the knowledge, understanding and skills they need to design and make effective digital products for others to use, and to support future learning and exploit opportunities in the creative digital industries.

The qualification has been developed to reflect the increasing use of creative digital computing in everyday life, with a greater emphasis on creative design and development.

Aims

This qualification aims to:

- equip young people with the knowledge, understanding and skills they need to design and make effective 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 to strive for excellence
- increase young people's awareness of their responsibilities in the digital world and their respect of other people's rights
- equip young people with professional, real-world skills in planning, project management and communication
- give young people the knowledge, understanding and skills they need to support future learning and exploit opportunities in the creative digital industries.

Supporting you

This *Getting Started* guide provides an overview of the CiDA specification to help you get to grips with the content and assessment, and to help you understand what these mean for you and your students.

As this is an established qualification, there is a full range of support to help you plan and implement the new specification. This includes:

- sample assessment materials
- sample materials for delivering the units (tutor support packs)
- sample materials for assessing the Summative Projects
- Chief Examiner reports
- the Edexcel website.

Pearson delivers a full INSET programme. This includes face-to-face and online events.

The national programme of training offered is on the Pearson website.

Planning

The Pearson Edexcel Level 2 Certificate in Digital Applications:

- takes 120 guided learning hours (GLH) to deliver
- is equivalent to one GCSE at grades A*–C

- is made up of two units:
  - one externally assessed unit comprising a practical exam set and marked by Pearson (25%)
  - one internally assessed, externally moderated unit (75%); the centre should select one from the three options available.

The Summative Project is the means by which students create a synoptic piece of work. There is one Summative Project for each unit, each based on a brief. Summative Project Briefs are set by Pearson, administered and marked by the centre, and moderated by Pearson.

Unit	Mandatory unit	GLH	Weighting	Assessment
1	Developing Web Products	30	25%	Practical examination, 2.5 hours
Unit	Optional units (Students must complete one of the three optional units)	GLH	Weighting	Assessment
2	Creative Multimedia	90	75%	Summative Project Brief (SPB) Internally assessed/externally moderated
3	Artwork and Imaging	90	75%	Summative Project Brief (SPB) Internally assessed/externally moderated
4	Game Making	90	75%	Summative Project Brief (SPB) Internally assessed/externally moderated

There are a range of possible ways of planning the delivery of the specification and centres will need to decide on a delivery model that suits their teaching methods, school timetables and students.

Within the specification, the units are divided into a number of sections:

- **Introduction:** provides the rationale for the unit, including its vocational relevance
- **Recommended prior learning:** identifies other units or learning that students would benefit from having studied beforehand
- **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
- [other sections for teacher guidance]
- **Assessing students' work (Units 2, 3 and 4 only):** provides detailed guidance on how to assess students' work, with mark descriptors
- **Delivering this unit:** gives suggestions for delivering the unit
- **Links:** shows the relationship with other units

- **Resources:** provides some suggested resources.

The time allocated to each element of the specification reflects the weighting of that element.

Unit 1: Developing Web Products

Content overview

Unit overview

This is a practical examined unit. It acknowledges the increasingly significant role of the world wide web in everyday life and develops the skills and knowledge needed to produce effective web authoring and evaluation skills.

This unit is allocated 30 GLH.

Aim of the unit

Students will demonstrate the ability to:

- design
- build
- test a web product.

How is the exam paper designed/formatted/laid out?

Students will be given a client brief set by Edexcel. The client brief includes an introduction to the business/organisation.

The client brief is then broken down into the following sections:

- overall site requirements
- other requirements
- the task
- Activity 1
- Activity 2.

Overall site requirements

This section includes the following instructions:

- the pages for the product
- a requirement for content to be visible, without scrolling, at the specified page size or resolution
- images must be taken from the ASSETS folder
- a consistent design must be used throughout the product.

Other requirements

This section will include further information and specifics on the product requirements, for example:

- page template
- file formats
- images
- thumbnails
- contacts.

The task

The examination is made up of one task divided into two activities.

The task section in the exam paper gives an overview of what is required by the student.

Students will:

● design and create a website or microsite [note: a microsite is a website, distinct and separate from an organisation's main site, that delivers more focused, relevant content about a specific topic, or to a targeted audience, or even just requiring a defined action]

● create a page template to ensure consistency

● include the requirements specified in the client brief

● create a logical folder structure for the site files.

Activity 1

In Activity 1, students will design, build and test their website/microsite.

Activity 2

In Activity 2, students are required to complete an evaluation in order to justify their design decisions, the choices they made and to suggest further improvements. The evaluation form will be supplied by Edexcel.

Delivering the content

The specification unit is divided into the following 10 sections:

1 Audience and purpose
2 Client briefs and the project life-cycle
3 Site structure
4 Consistency
5 Composition and page design
6 Accessibility
7 Content preparation and selection
8 Coding
9 Testing
10 Evaluation.

1 – Audience and purpose

To create a successful web product, students need to understand the purpose and target audience so that the web product meets their needs. The exam paper will detail the target audience and list the requirements. There will be marks available for the ability to create a web product that demonstrates good awareness of audience and purpose as outlined in the client brief.

2 – Client briefs and the project life-cycle

To understand and translate the client brief, students need to understand the project life-cycle in order to help them approach the task in an organised and effective way. Students must read and be clear on the requirements so that a successful product can be designed and created.

3 – Site structure

Students will need to design the overall structure of the web product, what pages are needed and how they relate. The overall site requirements and other requirements in the client brief will specify aspects of the site structure, but students will need to decide exactly how the site is structured. Marks are available for the ability to create a site structure that meets client requirements.

4 – Consistency

Students need to ensure that the look and feel of a page is consistent: this helps users navigate around the web product with ease. Students need to learn how to create and use templates in order to do this. Marks are available for the ability to use a consistent layout and design, including the ability to apply the template consistently.

5 – Composition and page design

Having designed a template and established some design rules for consistency, the next stage is to decide on the composition and design of each page. For example students will need to consider the title, layout, images and text. Students will use their knowledge of composition and page design to create a web product that meets client requirements. Marks are available for the ability to create a web product that presents content in an effective way.

6 – Accessibility

Students must make their web products accessible to people with visual impairments. They will learn how to improve the accessibility of products by:

● avoiding colour combinations, such as red and green, on the web pages

● using a high contrast between text and the background

● adding ALT (alternative) text to images

● using scalable fonts.

Students must understand the significance of ALT text and it is important to show them examples of where this works effectively and where this isn't the case. Students should aim to make their website accessible for the visually impaired. Marks are available for the ability to use appropriate accessibility features.

7 - Content preparation and selection

The client brief will include the content required but students will need to make decisions about what to include and how it should look. Students should be mindful that quality content improves user experience. For example, animated graphics or scrolling text should be avoided unless they enhance the content or user experience.

Students need to learn how to organise content, present text clearly using formatting features, create interactive components, and prepare and optimise pages. The client brief will specify some of the content required, but students will also have scope to decide what other content to include, what it should look like and where it should go. Marks are available for the ability to select and use content appropriately.

8 – Coding

Students need to learn how to make simple code changes using HTML. Students will learn to understand and use hexadecimal colour codes/RGB values. Marks are available for the ability to meet the coding requirements in the client brief.

9 – Testing

Students need to learn how to carry out systematic functionality testing of a web product to ensure that it works as intended. They will also learn how to carry out usability testing to assess the effectiveness of the product. They should be encouraged to regard testing as an integral part of the development process, checking both functionality and usability, and incorporating feedback from suitable test users. Students should allow time to test their web product during the exam to ensure that it is fully functional and meets all requirements.

Marks will not be awarded directly for testing, but failing to test the web product could mean that some aspects do not work as intended or do not meet client requirements.

10 – Evaluation

Students need to learn how to explain their choice of design features and how they have addressed client needs, giving examples. However good the product, there will always be room for improvement and students must be able to identify possible enhancements.

Marks are available for the ability to evaluate the web product produced.

Assessment overview

This is a practical computer-based examination set by Pearson. The examination is comprised of one task divided into two activities. The examination is 2 hours and 30 minutes in length, and there are 50 marks available.

The assessment will be available for a 5-day assessment window in both January and June each year. Edexcel will set one exam paper during the week. Centres must produce a schedule showing the dates and times of each exam session to be held in the window. This schedule must be submitted to Edexcel's Business Assurance department. Please refer to the *Administrative Support Guide (Instructions for the Conduct of Examinations)* for contact details.

As this is a practical exam, each student must have full use of a PC with access to software that will enable them to meet the requirements of the examination (e.g. audio, video and image conversion software), but must not have access to the internet. Centres must create a user area for each student to save their work and not a thread area. Edexcel will provide an ASSETS folder a week before the exam; this should be tested in the centre. This ASSETS folder must be made available to each student in their user area.

All students' work must be saved on CDs provided by Edexcel and sent to the allocated Edexcel examiner. Submissions on memory sticks are also allowed. Students must save the final exam product/website in a format that will allow it to be viewable/accessible for marking on a desktop internet browser. Centres should refer to the digital applications moderators' toolkit to ensure that the available software is compatible with the file formats mentioned in the toolkit.

There is no restriction on the number of times Unit 1 may be attempted prior to claiming certification for the qualification. The best available result will count towards the final grade.

Further information regarding cash-in procedures can be found in the *Edexcel Information Manual*.

A checklist for planning and delivering Unit 1

- Download the CiDA specification here.
- Download, print and read the *Administrative Support Guide* for conducting examinations.
- Review the digital applications moderators' toolkit.

- Use previous papers for teaching and learning activities, and for a mock exam to assess whether students are ready to sit the live paper.
- Remember to download, print and read the Examiner's Report; this is always insightful. It will highlight areas of concern and give guidance.
- Add the Subject Adviser email TeachingICT@pearson.com to 'my contacts'.
- Save the link for Ask the Expert to your 'favourites'.

Suggested timetable for Unit 1 preparation

This suggested timetable is just a proposal for delivering Unit 1 that fits the 30 GLH with an assumption of 2 hours per week. While it might be tempting to spend more time on this, the percentage allocation for the exam is just 25%.

Week number	Task
1	Evaluate different websites Introduction to web-authoring software – basic page
2	Composition and page design
3	Composition and page design
4	Audience and purpose Accessibility
5	Client brief Content selection and preparation
6	Content selection and preparation
7	Project life-cycle Consistency and structure
8	Consistency and structure
9	Coding Successful design – investigate
10	Testing
11	How to evaluate
12	Refresh client brief and audience/purpose
13	Paper analysis – how to gain marks and how to use the assets
14	Practice paper
15	Feedback and final revision

Summative Project Briefs (SPB)

Summary of controls

Units 2, 3 and 4 will be solely assessed via a Summative Project Brief (SPB). Each unit has its own SPB. The SPB is an interactive web page that allows students to work through the tasks. SPBs can be accessed here.

You will need to identify the correct SPB; this will be dependent on the year your students will sit the SPB. Each SPB will clearly state the years in which it can be taken. For each unit, an SPB will be released in September of each year and will remain live for two years.

Students will only be able to work on the SPB during lesson time, under the supervision of a teacher. This means that there must be adequate supervision to ensure that work can be authenticated.

The *Teacher Support Notes* will also specify any work that may be completed without supervision outside of the classroom – for example, background research and asset gathering. All other work, including any manipulation or development of this material, must be done under supervision in the classroom.

The *Controlled Assessment Guidance Document* provides full information on the controls around the SPB: to access this document, click here.

For Units 2 and 3, students present their work in an e-portfolio. 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. Students will be expected to present e-portfolio content in a format appropriate for viewing at a resolution of 1024 × 768 pixels.

The e-portfolio must be constructed so that its contents can be accessed using the digital moderator's toolkit. Recommended file size limits are published in each SPB. Students who exceed this recommended limit will not be penalised. However, it should be noted that working within these guidelines will allow students to meet all the requirements of the brief.

The Summative Project is marked internally using the detailed mark descriptions provided for each unit. Where marking for this specification 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 marking grids, across all of the units. Marks awarded by the centre will be subject to external moderation by Edexcel.

A total of 90 GLH is recommended for Units 2, 3 and 4. It is also recommended that teaching and learning should comprise 60 GLH, with 30 GLH allocated for responding to the Summative Project Brief.

Unit 2: Creative Multimedia

Content overview

Aim

Students will plan, design, build and test interactive multimedia products through work on a major project set by Edexcel. This will include the development of an e-portfolio that exhibits achievements and is in itself an effective multimedia product.

Delivering the content

The specification unit is divided into the following nine sections:

1   Investigating multimedia products
2   Designing multimedia products
3   Collecting and creating digital assets
4   Developing multimedia products
5   Prototyping and testing
6   Distribution
7   Product review
8   Presenting multimedia products in an e-portfolio
9   Standard ways of working.

1 – Investigating multimedia products

Students need to develop an understanding of how multimedia is used in a variety of contexts – for example, education, entertainment and marketing. Students need to learn how to evaluate the techniques and technology used in each type of product by considering features such as ease of access, appropriateness of content and use of colour.

Students should be encouraged to look critically at a range of multimedia products such as websites, presentations, e-learning materials, information points, virtual tours and games. Resources are readily 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.

2 – Designing multimedia products

Students who produce detailed up-front designs, and use feedback from others to refine them, are more likely to produce a product that is fit for purpose. Students need to be clear that storyboards and other design documentation will enable them to develop their ideas about the 'look and feel' of the product, e.g. colour schemes, fonts, placement of assets, number and types of asset to be used, navigation, etc. Designs should be sufficiently detailed to clarify ideas, allow constructive feedback and facilitate implementation. Retrospective 'designs' are not acceptable.

Before beginning production, students should be encouraged to make all the important decisions necessary. Storyboarding, structure charts and flowcharts are important design tools that students must be able to use. Students should annotate their designs to help describe their ideas, and to give reasons why they intend to do things in a particular way (design decisions).

3 – Collecting and creating digital assets

Students will need to collect suitable content for their multimedia products, bearing in mind the purpose of the application and the intended users.

Students will learn:

- about ready-made assets
- how to use simple editing techniques
- about copyright and other constraints on the use of digital assets in products intended for the public domain
- how to use a range of digital tools to create original assets
- how to select appropriate file names and formats for the assets they collect
- about compression techniques for keeping file sizes as small as possible.

It is important that students are provided with a range of sources for components. While collecting these materials, they must be continually reminded about the laws of copyright and the importance of acknowledging sources. They will need to learn how to check whether it is permissible to use a source. They should be encouraged to keep an ongoing record of all sources of the components they collect.

4 – Developing multimedia products

Students need to gain experience of using a range of software applications before embarking on the Summative Project. It may be useful to give them a series of small projects to carry out to help them appreciate the functionality and limitations of the different software applications available to them. They will need to become skilled at editing ready-made components and creating their own.

Students will need time to explore the features of the multimedia authoring software. They should be set a number of mini-projects to help them become familiar with the features provided by the software.

5 – Prototyping and testing

Prototyping involves producing working versions of a product at various stages during its development and testing them with users to find and iron out problems as you go along. Students will learn how to create and utilise prototypes for use with test users.

Students will learn about the importance of testing products properly to ensure, for example, that:

- the content is correct, engaging and conveys the right meaning
- every link goes where it should with no dead ends
- all the interactive features work as intended
- the product is robust and cannot be made to fail.

Students need to learn what **testing** involves in order to:

- note any potential problems as they occur
- decide how they are going to put them right
- check that any changes they make do not affect other parts of the product.

Students need to learn how to use **feedback** from a range of potential users, including those with a good knowledge of multimedia products and others who are complete novices.

Each student will work with a test buddy to give and receive feedback on their product designs, prototype products and final product. Students must be made aware of what is expected of a test buddy. They can comment on the 'what' (e.g. what they think is good and what they think could be improved), but they may not feed back on the 'how' (e.g. how to make changes or specific solutions to any problems).

6 – Distribution

If students use specialised software to produce a multimedia product, it is quite possible that some of the target users will not have this software available on their computers.

Students will learn how to create run-time versions of their products, so that they are accessible to as many people as possible.

Students will need to use this method for their e-portfolio.

7 – Product review

Students need to learn how to review products once they are completed. Students will evaluate how well their products worked and how easy they are to use.

Students should consider feedback from end reviewers and make valid suggestions for further improvement of their final products.

The student's review could be any combination of a written evaluation, a verbal evaluation recorded in an appropriate way or a presentation.

8 – Presenting multimedia products in an e-portfolio

Students need to learn what an e-portfolio is and how it is used to create an interactive show-case for achievements in a way that is self-explanatory and easy to use.

Students will need to learn about how to construct an e-portfolio, making decisions about content, organisation, packaging, accessibility and file formats.

9 – Standard ways of working

While working on a project, students are expected to use ICT efficiently, legally and safely.

Assessment overview

How students will be assessed:

Assessment consists of five strands, with a total of 33 marks:

a   Design multimedia products (7 marks)

b   Collect, edit and create digital assets (5 marks)

c   Develop multimedia products (9 marks)

d   Present evidence in an e-portfolio (7 marks)

e   Review the products (5 marks).

Strand (a) requires explicit detailed designs with justification of decisions and descriptions of assets. Marks can only be awarded if evidence is present; this cannot be inferred.

Strand (b) focuses on the gathering and preparation of assets for use in the products. Students must prepare files to suit the intended purpose. They must also have appropriate software available.

Strand (c) focuses on demonstrating awareness of audience and purpose by developing a set of products that meet requirements. Prototyping and testing are inferred from the quality of the outcomes.

Strand (d) requires the production of a multimedia e-portfolio using assets and explanations that are appropriate for the audience, namely an assessor and moderator. Prototyping and testing are inferred from the quality of the product.

Students must prepare files to suit the recommended size restriction of the project. This can be found in the 'portfolio' section of the SPB. Any redundant files such as unedited audio files and pre-published files do not need to be included.

Strand (e) requires a realistic evaluation of the products with consideration of feedback from reviewers. There is no requirement for explicit comments on the student's own performance.

Unit 2: format of the SPB

Scenario page

This page introduces the context and lists the products to be developed.

Getting organised page

Students are asked to create named folders (PRODUCTS and EVIDENCE) in which to store their finished products and other evidence for the e-portfolio. The symbols indicate that a product or other evidence is to be saved and which folder to use.

Students are asked to create an elements table and are free to design a suitable format. Students are expected to keep this table up to date throughout the project.

Proposal page

Students are asked to complete a proposal outlining their intentions. A list of content is given in the brief but students are free to design their own format.

Design log

Students are asked to produce a design log and to use it to record the design process throughout the project.

Products pages

A list of requirements, such as specific elements and the use of primary sources, is provided for each product. Students are expected to apply their knowledge and skills to design and produce effective products.

Some tasks may be more open-ended, leaving students free to apply their creative skills.

Students are expected to test and edit products during development but no explicit reminders are given to do this.

E-portfolio pages

The e-portfolio should be a multimedia product in its own right. Some requirements are given.

Review page

A review of the final product is required, including feedback from end-of-project reviewers and suggestions for improvements. Students are not required to make explicit comments on their own performance.

A checklist for planning and delivering Unit 2

● Familiarise yourself with the Unit 2 content. If you have any questions, contact the ICT Subject Adviser or Ask the Expert.

● Download, print and read the *Administrative Support Guide* for conducting internally assessed units.

● Review the digital applications moderators' toolkit.

● Access Summative Project Briefs here.

● Remember to download, print and read the associated teacher support notes for the SPB.

● Remember to download, print and read the Examiner's Report; this is always insightful. It will highlight areas of concern and give guidance on what needs to be done to meet the assessment criteria.

Unit 3: Artwork and Imaging

Content overview

Aim

Students will demonstrate their ability to create effective images and graphic products through work on a major project set by Pearson. This will include exhibiting work and supporting evidence in an e-portfolio.

Delivering the content

The specification unit is divided into the following 11 sections:

1   Investigating artwork and images
2   Designing artwork and images
3   Image types
4   Developing artwork and images
5   Using drawing tools
6   Using image editing tools
7   Preparing images for screen
8   Preparing images for print

9   Product review

10 Exhibiting work in an e-portfolio

11 Standard ways of working.

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 this unit 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, colour models, etc.

1 – Investigating artwork and images

Students will need to learn how artwork and images are used in a variety of contexts and graphic products, such as illustrations in books, magazines, newspapers and posters, symbols and signs in public places, buttons and icons on websites and other user interfaces, websites, presentations and animations.

Students will learn how to evaluate the effectiveness of these images by considering factors such as audience and purpose, composition and use of colour.

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 here. Asking a group of students to evaluate the success of a graphic and present their ideas to the wider group will be helpful in exploring a range of ideas and sources.

2 – Designing artwork and images

Students should read the entire project brief first. There are a number of key questions they need to ask themselves, including:

● What do I have to produce?

● What is it for?

● Who is the intended audience?

Students need to learn how to generate ideas to meet objectives, where to get ideas for designs and about the wide range of stimulus materials that are available. They also need to learn how to make use of feedback from others on their initial designs to ensure that the final products meet the needs of the target audience.

To respond effectively to the SPB, it is recommended that students create a design log. This should include:

● key stages in the design and development of their products

● explanations of their design decisions

● explanations of their use of graphic tools and techniques

● feedback on their final designs and possible improvements

● changes made in response to feedback and testing.

3 – Image types

Students need to work with two different image types: vector and bitmap (also sometimes called raster). Students need to know how these differ from one another, the advantages and limitations of each and which purposes each is most suitable for.

It may be useful to ask students to produce the same graphic using both types, in order to examine the suitability of each type for a particular purpose. Students need to be given opportunities to explore the tools and techniques of the software available to them.

4 – Developing artwork and images

Students will need to experiment with a variety of tools and techniques for creating and editing vector and bitmap images in order to test out ideas. While students are experimenting with the software to produce design ideas, they will need to remember the objectives of the project and evaluate what makes a good design solution.

Students may find it helpful to use paper and pencil to sketch out their ideas. Students will need to check and refine their work to make sure that the final images are fit for purpose. Students will save their final images and the designs on which they are based in an e-portfolio, so that the development of images from initial idea through to final product can be seen. Hand-drawn ideas should be scanned for inclusion in the e-portfolio.

5 – Using drawing tools

Students will learn a number of techniques, such as create and edit objects, path and point, stroke and fill, and edit and arrange vector images.

6 – Using image editing tools

Students will learn how to:

- create bitmap images or elements
- scan images or use other capture devices such as digital microscopes
- download pictures from a digital camera
- draw/paint images
- combine bitmap images and parts of graphics in a composite image.

7 – Preparing images for screen

Students will prepare images for screen and will need to consider the quality of the image and the file format. They will also need to understand and apply various colour systems that are suitable for the web.

In preparing artwork and images for the screen, students need to be aware of such things as resolution, colour, file format and size, compatibility, etc. and how these may impede the ability of the audience to view the graphic. By exploring a series of poorly constructed websites, students will be introduced to the issues of download speed and use of colour, and how these can hinder a project's success.

8 – Preparing images for print

When preparing images for use onscreen, students have the advantage of being able to see what they will look like: what you see is what you get (WYSIWYG)! However, if the image is destined for another medium, such as paper, they will need to make sure that it will look how they want it to.

9 – Product review

Students must carry out a review of their finished products. They must ask end-of-project reviewers to evaluate the products.

The review must include:

- a student evaluation of the finished products
- consideration of feedback from end-of-project reviewers
- suggestions for improvement.

When producing a graphic for a particular purpose and audience, it is important that students continually test the product and evaluate their progress. It is difficult for students to make extensive changes at the end of a project, as they will have

invested much time and energy in the idea. It is therefore essential to build in periods of evaluation at different stages during the development of the graphic. Peer support may be a useful strategy here, as it will help students to build their evaluative skills, while also helping someone else.

10 – Exhibiting work in an e-portfolio

Students need to learn about what an e-portfolio is and how it is used to create an interactive showcase for achievements in a way that is self-explanatory and easy to use. They will need to learn how to construct an e-portfolio, which file formats are suitable for images and documents so that people can view and read them even if they do not have the same software, and they must get other users to test their e-portfolio.

Students should be encouraged to include comments introducing their content, however this shouldn't be a narration of what was done or how it was created.

11 – Standard ways of working

Students will be expected to use ICT efficiently and safely.

Assessment overview

How students will be assessed:

Assessment consists of five strands, with a total of 33 marks:
  a   Design and develop graphic products (9 marks)
  b   Develop scalable images and artwork (5 marks)
  c   Develop bitmap images and artwork (7 marks)
  d   Exhibit work in an e-portfolio (7 marks)
  e   Review the products (5 marks).

Strand (a) focuses on demonstrating awareness of audience and purpose by designing and developing a set of products that meet requirements, with justification of decisions. Prototyping and testing are inferred from the quality of the outcomes.

Students need to explain their design decisions. Students must also show evidence from their initial designs to the final product. This must include comments on any changes and the reasons why; i.e. feedback from the test user may influence changes.

Strand (b) focuses on the use of vector drawing tools to develop elements for use in the products.

Strand (c) focuses on the use of bitmap tools to develop elements for use in the products.

To achieve the higher mark bands for strands (b) and (c), students must have described their use of vector and bitmap tools in developing the elements. Students should record the main stages of development of their products and how graphic tools were used to achieve them. This could include annotated images.

Strand (d) requires the production of an e-portfolio using graphic elements and explanations that are appropriate for the audience: namely an assessor and moderator. Prototyping and testing are inferred from the quality of the product. E-portfolios should include comments introducing their content.

Strand (e) requires a realistic evaluation of the products with consideration of feedback from reviewers. There is no requirement for explicit comments on the student's own performance.

Strand (e) also requires students to make evaluative comments on their final products and to include feedback from reviewers. Students should be provided with suitable feedback to enable them to produce appropriate responses.

A checklist for planning and delivering Unit 3

- Familiarise yourself with the Unit 3 content. If you have any questions, contact with the ICT Subject Adviser or Ask the Expert.
- Download, print and read the *Administrative Support Guide* for conducting internally assessed units.
- Review the digital applications moderators' toolkit.
- Access Summative Project Briefs here.
- Remember to download, print and read the associated teacher support notes for the SPB.
- Remember to download, print and read the Examiner's Report; this is always insightful. It will highlight areas of concern and give guidance on what needs to be done to meet the assessment criteria.

Unit 4: Game Making

Content overview

Aim

Students will learn about different types of computer games, investigate what makes a game successful and learn how to plan, design and create great games for others to play.

Delivering the content

The specification unit is divided into the following six sections:

1 Investigating computer games
2 Using a mood-board
3 Developing games for others to play
4 Promoting games
5 Reviewing games
6 Being able to use ICT efficiently and safely.

1 – Investigating computer games

Before students start to produce computer games, they need to learn about the different types of computer games created by others, including action, adventure, platform, and puzzle.

Students must be given the opportunity to evaluate different types of computer games, and to consider their graphics, music and sound effects, playability, challenge and originality.

Students need to consider features such as:

- style (e.g. cartoon, retro, realistic, environment (3D, 2D), single/multi-player)
- platform (e.g. PC, mobile phone, console, online)
- PEGI rating
- game elements (e.g. light effects, sound (effects, music, speech), story, characters, sprites, 3D models, backgrounds, tiles, textures, fonts)

● game play (e.g. scoring, levels, rules, instructions, controls, interaction).

2 – Using a mood-board

Students need to learn how to use a mood-board to show other people what they have in mind and how the mood-board can be used to provide information about the game, including purpose, target audience, genre and style, rating, platform and key features. At this stage, students should be able to explain how they will test the game for functionality and playability.

Some students may be tempted to skip this important stage. It may be useful to look at how successful designers go about generating ideas for good games and trying to model what they do. It is the idea of a computer game upon which everything else depends. Students need to devote enough time to this stage in order to ensure that the initial ideas they come up with are viable, given the limitations of the ICT tools available to them, their level of expertise and the amount of time they have to produce the finished game. Teachers are advised to impose a formal sign-off process, which should be completed prior to any serious development work getting underway.

3 – Developing games for others to play

Games must be carefully designed if they are to work as intended and be fun to play. Students need to learn how to break down the task of developing the game into a number of sub-tasks, including the following points:

● **Creating assets**: When it comes to preparing the assets, students do not have to produce all of the game objects themselves. However, when considering materials produced by others they must be mindful of legal and other constraints, and the importance of acknowledging sources when importing assets and creating features, e.g. levels, scoring systems, events, controls and actions.

● **Testing and prototyping:** Students must recognise that prototyping and testing is an integral part of game creation. They will need help to develop a suitable testing strategy and a test plan. Test buddies have an important role to play in this process. Students will need to be taught how to be a good test buddy. Continual evaluation of their own and others' work will help students develop reflective skills. Among other things, this is likely to entail attempting to 'bust' someone else's game!

Students need to be taught the importance of good design and how to capture key aspects of the design process, showing how their designs develop from initial ideas through to final product. They should learn the value of feedback and ensure that they solicit feedback from suitable people throughout the project. The selection of a team of 'test buddies' who will give them honest and critical feedback could be a key success factor.

Students need to be able to use a wide range of software tools, including sound, graphics and games creation software, in order to create and edit game objects and build their game engine. It would be useful for them to be set a number of smaller game-making projects to help familiarise them with the tools before they embark on their final game.

Students should use dedicated games-authoring software or multimedia software capable of creating 2D and 3D games, such as Flash or Flash variants. The software needs to be able to create rules to control the game (by handling variables); this is in addition to manipulating the graphics and audio. For a range of appropriate software, please refer to page 78 in the *CiDA Specification*.

4 – Promoting games

There is no point producing a fantastic game if no-one knows about it. Students will learn how to use assets from the game to create a promo that attracts interest and persuades people to play.

5 – Reviewing games

Students will learn how to review the strengths and weaknesses of games by evaluating factors such as:

● playability (e.g. challenge, interest, duration, start-up, progress)

● interactivity (e.g. controls, effects)

● rules (e.g. clarity, logic)

● instructions (e.g. clarity, prompts, help originality)

● user ratings and comments.

6 – Being able to use ICT efficiently and safely

While working on a project, students will be expected to use ICT efficiently, legally and safely.

Assessment overview

How students will be assessed:

This unit takes a holistic approach to the assessment of knowledge, understanding and skills. Students will demonstrate knowledge and understanding of the content through how well they perform the tasks in the project brief given.

This project brief should take approximately 30 hours to complete. Students will gain marks for:

Assessment consists of five strands, with a total of 33 marks:

a   Your design and development work (9 marks)

b   The functionality of your game (7 marks)

c   The user experience (7 marks)

d   Your promo for the game (5 marks)

e   Your game review (5 marks).

Strand (a) focuses on demonstrating awareness of purpose by designing a game, including a mood board for the game, and preparing appropriate content for it.

Marks will not be awarded for retrospective design. Students need to explain the development process from initial ideas through to the final game: saying 'I created an assets table' is not sufficient. On a mood board, students may provide annotations explaining such things as events on the screen and assets used.

Students could be shown good, detailed examples of design work and examples where the detail isn't sufficient. Students could be asked to carry out a marking activity, giving them two examples of exemplar work to review.

Strand (b) focuses on the functionality of the game, including challenge and logic. Students must test the game once they have exported it to an appropriate file format. Students get assessed on the product they have created, not the coding. Students must provide easy-to-follow user instructions. Students must show evidence of their testing, modifications/changes and enhancements in order to be awarded marks.

Strand (c) focuses on the user experience, including usability testing. The game has to provide the player with a positive experience, so it has to work correctly. A good game will be of sufficient length with a number of levels that get progressively

harder. Controls should be easy and intuitive. Students must show evidence of usability testing. Candidates need testers that are part of the target audience.

Strand (d) requires the production of a promotional product to attract interest in the game.

Strand (e) requires the game to be reviewed in terms of strengths and weaknesses, considering what attracts interest and persuades people to play.

Unit 4: format of the SPB

Scenario page

This page introduces the context for the game.

Getting organised page

Students are asked to create named folders (PRODUCTS and EVIDENCE) in which to store the finished game and other evidence for the e-portfolio. The symbols indicate that a product or other evidence is to be saved and which folder to use.

Students are asked to create an assets table and are free to design a suitable format. Students are expected to keep this table up to date throughout the project.

Game overview page

Students are asked to complete an overview outlining their intentions. A list of content is given in the brief but students are free to design their own format.

Mood board page

Students are asked to develop a mood board and to save evidence of it.

Storyboards page

Students are asked to develop a set of detailed storyboards for their game.

Assets page

Students are asked to create an assets table and are free to design a suitable format.

Development page

Students are required to build and test the game.

Students are expected to test and edit components of the game during development.

Students are expected to record details in a test log during development and are free to design their own format.

Instructions page

Students are required to include instructions with the game.

Promo page

Students are required to create a promotional product for the game, using any appropriate format and content.

Game review

Students are required to produce a review of the game suitable for publication in an online magazine.

Review page

A review of the final product is required, including feedback from end-of-project reviewers and suggestions for improvements.

Evidence

Students are not required to produce an e-portfolio. Instructions are given to create a single page with links to the evidence.

A checklist for planning and delivering Unit 4

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