



# Survey on practical tasks in GCE AS/A level Digital Technology



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## 1. Background

- 1.1. In December 2018, Qualifications Wales published a review of qualifications and the qualification system in the ICT sector in Wales. This review was called [Delivering Digital](#). The review set out a series of actions intended to address the issues it identified. Of these, action 6 set out our intention to invite awarding bodies to develop a new GCE AS/A level Digital Technology qualification for first teaching from September 2022.
- 1.2. This action set out our requirement that this new qualification should:
  - Include current and relevant digital content;
  - Be portable throughout the United Kingdom and the rest of the world;
  - Include manageable and engaging assessments;
  - Provide appropriate progression from GCSE Digital Technology;
  - Support progression into higher education or employment.
- 1.3. We have also invited awarding bodies to develop a GCSE Digital Technology qualification, for which we recently published approval criteria. This document sets out the minimum requirements a qualification must meet in order to be approved for delivery on publicly funded programmes of learning in Wales and can be accessed [here](#). This qualification is intended to be available for first teaching from September 2021.
- 1.4. As part of developing an approval criteria document for the GCE AS/A level qualification, we held a series of development days in March 2019 for teachers and further education lecturers to share their ideas. All sessions were well attended and we thank all those who were involved for their help in shaping the aims and objectives, content and assessment arrangements so far.
- 1.5. We also established the Digital Technology Qualifications Advisory Group to represent the views of different stakeholders across the sector in Wales. It is comprised of teacher representatives from each of the four regional education consortia, representatives from higher education, further education, employers and the awarding body who has expressed its interest in developing the new qualification. The group continues to offer valuable insight into the sector and we thank representatives for their continued support.
- 1.6. Our development activity so far has determined aims and objectives for the qualification and a broad outline for the new qualification.

## 2. Purpose

- 2.1. This is the first of two planned surveys in relation to our work on this qualification. This survey will focus on developing the content and assessment requirements for this qualification. A second survey, planned for autumn 2020, will focus on a draft version of an approval criteria document for this qualification, which sets out the minimum requirements an awarding body must meet when developing the qualification.
- 2.2. In this first survey we are asking for views on the practical assessment tasks for the new AS and A level. We want to make sure that these will meet the aims, objectives<sup>1</sup> and requirements<sup>2</sup> for the new qualifications.
- 2.3. We especially want to hear from:
- Education professionals
  - Schools
  - Further education colleges
  - Higher education institutions
  - Learners
  - Parents, carers and guardians
  - Employers and representative bodies
  - Regional education consortia
  - Teaching unions
  - Awarding bodies.
- 2.4. In addition, we also ask stakeholders for their views on the proposed content and assessment arrangements identified for AS and A level units which we propose to be assessed by examination.

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<sup>1</sup> Set out on page 3 of this document.

<sup>2</sup> Set out on page 1 of this document.

### 3. Aims and objectives

3.1. Our engagement so far has allowed us to identify six overarching aims and objectives for the GCE AS/A level Digital Technology qualification. These are aims that the qualification must, as a whole, allow learners to achieve. They are:

The GCE Digital Technology specification should ensure learners:

- a) Develop an understanding of past, existing, new and emerging digital technologies;
- b) Develop an understanding of the integrated and connected nature of digital technologies used by individuals and organisations across the world;
- c) Develop skills in planning, designing and creating innovative web-based and multimedia content that meets the needs of specific audiences;
- d) Develop an understanding of the social, moral, ethical, legal and environmental impacts of digital technologies on individuals and wider society;
- e) Develop a knowledge of the systems development life cycle and its iterative and cyclical nature;
- f) Develop skills in researching and exploring issues before finding and implementing effective solutions to them.

#### 4. Proposals at a glance

4.1. We are currently proposing a GCE qualification of four units – two at AS level and two at A level. A broad outline is shown in the table below.

<b>Unit title</b>	<b>Content overview</b>	<b>Proposed assessment method</b>
<b>Unit 1 (AS): Innovation in Digital Technology</b>	Knowledge and understanding of information systems in contemporary and emerging contexts, and how they are used by individuals and organisations.	Examination
<b>Unit 2 (AS): Creative Digital Practices</b>	Knowledge, skills and understanding in planning, designing and developing a creative digital product.	Practical task
<b>Unit 3 (A2): Connected Systems</b>	Knowledge and understanding of the ways in which digital systems, and the people and organisations that use them, are connected.	Examination
<b>Unit 4 (A2): Digital Solutions</b>	Knowledge, skills and understanding in researching, planning, designing and developing a digital product that solves an organisational problem.	Practical task

## 5. How to respond to this engagement

- 5.1. We encourage you to respond to this engagement by completing the [online survey](#). You can do this in English or in Welsh.
- 5.2. The questions that are contained in this survey are also outlined in the sections below.
- 5.3. Wherever possible, please submit all responses through this survey. However, if you need to provide a response in a different format, you can also send it by email to:

[development@qualificationswales.org](mailto:development@qualificationswales.org)

- 5.4. We have published a privacy notice that outlines how we will collect and store any personal information you provide in your response. This can be accessed on our [website](#).
- 5.5. The survey will close at 5pm on Thursday, 02 July 2020. Unfortunately, we will not be able to consider any responses submitted after the survey has closed.

## **6. Proposals**

- 6.1. In the following sections we set out our proposals for each of the four units summarised in the above table (page 4).
- 6.2. For each unit, we ask specific questions.

## 7. Unit 1: Innovation in Digital Technology

- 7.1. We propose that this unit is assessed by examination.
- 7.2. We propose that this unit should account for half of the first year of study of this qualification.
- 7.3. The table below sets out the high-level topics we propose to include in our requirements for this unit, as well as some of the content that must be included.
- 7.4. An awarding body would be able to use these requirements to develop detailed content to include in the specification for the qualification.

AS LEVEL UNIT 1: Innovation in Digital Technology Systems	
Learning areas	Required content
<p>Knowledge and understanding of information systems in contemporary and emerging contexts and how they are used by individuals and organisations, including:</p> <p>Connected systems and smart devices</p> <p>User-centred design</p> <p>Artificial intelligence and robotics</p> <p>Social media</p> <p>Digital technology life cycles</p>	<p>Principles and uses of internet of things, such as in:</p> <ul style="list-style-type: none"> <li>• domestic settings</li> <li>• manufacturing</li> <li>• the built environment.</li> </ul> <p>• User experience (UX).</p> <p>• Development of human-computer interaction.</p> <p>• Development of artificial intelligence systems and robotics.</p> <p>• Applications, functions and potential uses.</p> <p>The functions, purposes and uses of social media.</p> <ul style="list-style-type: none"> <li>• Digital systems design.</li> <li>• Approaches and methodologies.</li> </ul>
<p>Relevant <b>social, moral, ethical and legal dimensions</b> should be explored to an appropriate degree to enhance the content above.</p>	

## Survey questions

7.5. The questions we ask you to consider in relation to this unit are:

- a. To what extent do you agree that the proposed content is suitable to support learners in achieving the subject aims and objectives (identified on page 3)?
- Strongly agree
  - Agree
  - Neither agree nor disagree
  - Disagree
  - Strongly disagree

Please explain your answer.

- b. Is examination a suitable method of assessment for the proposed content?
- Yes
  - No

Please explain your answer.

## 8. Unit 2: Creative Digital Practices

- 8.1. We propose that this unit is assessed by a practical project undertaken in response to an annual brief set by the awarding body.
- 8.2. We propose that this unit should account for half of the first year of study of this qualification.
- 8.3. The table below sets out a broad outline for this unit.
- 8.4. We are considering the potential for learners and centres to be able to select from a range of tasks where the primary outcome is a digital product with a creative focus.
- 8.5. As part of this unit, we are considering the inclusion of producing animations and video games. We want to hear from stakeholders about:
- the skills that should be assessed for each of these areas; *and*
  - the software which is available to centres for such tasks.
- 8.6. We also encourage stakeholders to suggest any other digital products with a creative focus that learners could develop in this unit. We would require any optional tasks to also be of comparable size and demand.

AS LEVEL UNIT 2: Creative Digital Practices	
Learning areas	Required content
Knowledge, skills and understanding required to produce a:  Creative digital product (which could be an animation, a video game or another digital product with a creative focus)  Supported by project management skills	<ul style="list-style-type: none"><li>• Planning</li><li>• Design</li><li>• Creation.</li> <li>• Action plans.</li><li>• Flow charts.</li><li>• Development logs.</li></ul>
To be assessed by <b>practical task</b> undertaken by learners in response to <b>an annual brief</b> .	

## Survey questions

8.7. In this section we ask three sets of questions.

a) For animations, we ask:

- What digital skills should learners be able to demonstrate and be assessed on when developing an animation?
- What software packages are available to centres to allow learners to demonstrate and be assessed on these skills?

*Please note that this question is optional.*

b) For video games, we ask:

- What digital skills should learners be able to demonstrate and be assessed on when developing a video game?
- What software packages are available to centres to allow learners to demonstrate and be assessed on these skills?

*Please note that this question is optional.*

c) We also ask stakeholders to describe any other digital products with a creative focus that could reasonably be offered to learners in this unit, asking them to identify:

- The type of digital product;
- The skills that should be demonstrated and against which learners should be assessed when creating this product;
- The software packages that are available to centres to allow learners to demonstrate and be assessed against these skills.

*Please note that this question is optional.*

d) We also ask stakeholders to share any additional comments they have on our proposals for this unit.

## 9. Unit 3: Connected Systems

- 9.1. We propose that this unit is assessed by examination.
- 9.2. We propose that this unit should account for half of the final year of study of this qualification.
- 9.3. The table below sets out the high-level topics we propose to include in our requirements for this unit, as well as some of the content that must be included.
- 9.4. An awarding body would be able to use these requirements to develop detailed content to include in the specification for the qualification.

A2 LEVEL UNIT 3: Connected Systems	
Learning areas	Required content
<p>Knowledge and understanding of the ways in which digital systems, and the people and organisation that use them, are connected, including:</p> <p>Data</p> <p>Cyber security</p> <p>Networking</p>	<ul style="list-style-type: none"> <li>• Collection.</li> <li>• Storage.</li> <li>• Analysis.</li> <li>• Use.</li> </ul> <ul style="list-style-type: none"> <li>• Threats and vulnerabilities.</li> <li>• Cyber security resilience controls.</li> <li>• Social engineering.</li> </ul> <ul style="list-style-type: none"> <li>• Digital network communications and data transmission.</li> <li>• Mobile technologies.</li> </ul>
<p>Relevant <b>social, moral, ethical and legal dimensions</b> should be explored to an appropriate degree to enhance the content above.</p>	
<p>Learners should develop skills in communicating, evaluating and analysing digital technology concepts through <b>extended written responses</b>.</p>	
<p>To be assessed by <b>examination</b>.</p>	

## Survey questions

9.5. The questions we ask you to consider in relation to this unit are:

a) To what extent do you agree that the proposed content is suitable to support learners in achieving the subject aims and objectives (identified on page 3)?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Please explain your answer.

b) Is examination a suitable method of assessment for the proposed content?

- Yes.
- No.

Please explain your answer.

## 10. Unit 4: Digital Solutions

- 10.1. We propose that this unit is assessed by a practical task undertaken by the learner.
- 10.2. We propose that this unit should account for half of the final year of study of this qualification.
- 10.3. In this unit, we propose that learners research, plan, design and develop a digital solution to a problem faced by an organisation.
- 10.4. In this engagement, we want to hear from stakeholders about the range of digital products that A level learners could create in this task (including the form of such products).
- 10.5. We also want to hear stakeholders' views on whether learners should, at the outset of the project, be provided with a brief set by the awarding body.

### Survey questions

- 10.6. In this section we ask two sets of questions.
  - a) Firstly, we ask:
    - Which digital product(s) should the qualification allow learners to create to solve a problem faced by an organisation?
    - For each digital product you identify, what digital skills should the A level qualification require learners to demonstrate?
    - For each digital product you identify, what software packages are available to centres to allow learners to demonstrate these skills?

*Please note that the survey will allow you to suggest up to three types of digital product (as well as the relevant skills and software).*

- b) At the outset of the project, should learners be provided with a brief set by the awarding body?
  - Yes
  - No

If no, please explain your answer.

- c) We also ask stakeholders to share any additional comments they have on our proposals for this unit.

## 11. Next steps

- 11.1. This engagement survey is the first of two planned surveys in relation to our work on this qualification.
- 11.2. The feedback from this survey will allow us to develop our requirements. We will discuss these detailed proposals with any awarding bodies who are interested in developing this qualification.
- 11.3. In the next survey, we will publish draft approval criteria and ask for stakeholders' views on whether the proposals, as a whole, are likely to lead to a qualification that is fit for purpose.