

GCE AS AND A LEVEL DESIGN AND TECHNOLOGY



**Summary of decisions and analysis of responses
to our consultation on reforming GCE AS and A
Level Design and Technology for first teaching in
September 2017**

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Executive Summary

Between 4 April and 15 May 2016, Qualifications Wales consulted on proposals for reformed AS and A Level Design and Technology qualifications to be Approved for first teaching in Wales from September 2017. A copy of the consultation proposals and questions is available at [this link](#).

In July 2016 we published *Approval Criteria for GCE AS and A Level Design and Technology (2016)*¹, which set out the detailed requirements for how the reformed qualifications should be designed and assessed. The requirements are informed by the responses to our online consultation and by views expressed by learners through a supplementary engagement exercise.

This report summarises the responses we received to the consultation of the proposals and explains the decisions that we took in light of these, which are reflected in the *Approval Criteria for GCE AS and A Level Design and Technology (2016)*¹.

This report is available in English and in Welsh. Respondents' comments have been translated, where appropriate, in accordance with the language of the report.

Percentages used throughout this document have been rounded to the nearest whole number.

Background

AS and A Level Design and Technology are being reformed in Wales for first teaching from September 2017, as part of a wider programme of reforms to GCSEs, AS and A Levels. The only awarding body who will develop and offer the reformed AS and A Level Design and Technology qualification in Wales will be WJEC, as it is the only awarding body who has agreed to develop reformed AS and A Levels designed specifically for award in Wales.

The proposals on which we consulted were developed through engagement with a number of stakeholders including the awarding body WJEC, schools and further education institutions (FEIs), higher education institutions (HEIs) and the Welsh Government (WG).

¹ [Approval Criteria for GCE AS and A Level Design and Technology](#)

Summary of proposals and decisions

Aims and objectives

We proposed a set of aims and objectives for the reformed qualification, which we have broadly retained in the Approval Criteria, with some minor amendments to the wording and structure.

Content

We proposed that the content to be studied and assessed in the new qualification should cover four key areas. We have retained three of these key areas in the Approval Criteria.

Assessment Objectives

We have adopted the proposed assessment objectives and weightings on which we consulted.

Assessment

As we proposed, the qualification will be linear and will include non-examination assessment which will contribute to 50 percent of the qualification.

Consultation responses

In total, twenty five respondents completed all, or part of, the online consultation for AS and A Level Design and Technology. Of these, twenty participants identified themselves as teachers, one responded as a parent and two respondents identified themselves as 'other'. Two respondents chose not to respond to the personal details section of the consultation.

Subject aims and objectives

For the reformed AS and A Level Design and Technology qualification, we proposed the *following aims and objectives*:

- *Design and technology is an inspiring, rigorous and practical subject. Specifications in design and technology should encourage students to use creativity and imagination when applying iterative design processes to develop and modify designs, and to design and make prototypes/products² that solve real world problems, considering their own and others' needs, wants, aspirations and values. Specifications should enable students to identify market needs and opportunities for new products, initiate and develop design solutions, and make and test prototypes/products. Students should acquire subject knowledge in design and technology, including how a product can be developed through the stages of prototyping, realisation and commercial manufacture.*

² *In this document 'prototype' is used to describe all working solutions including products, models and systems.*

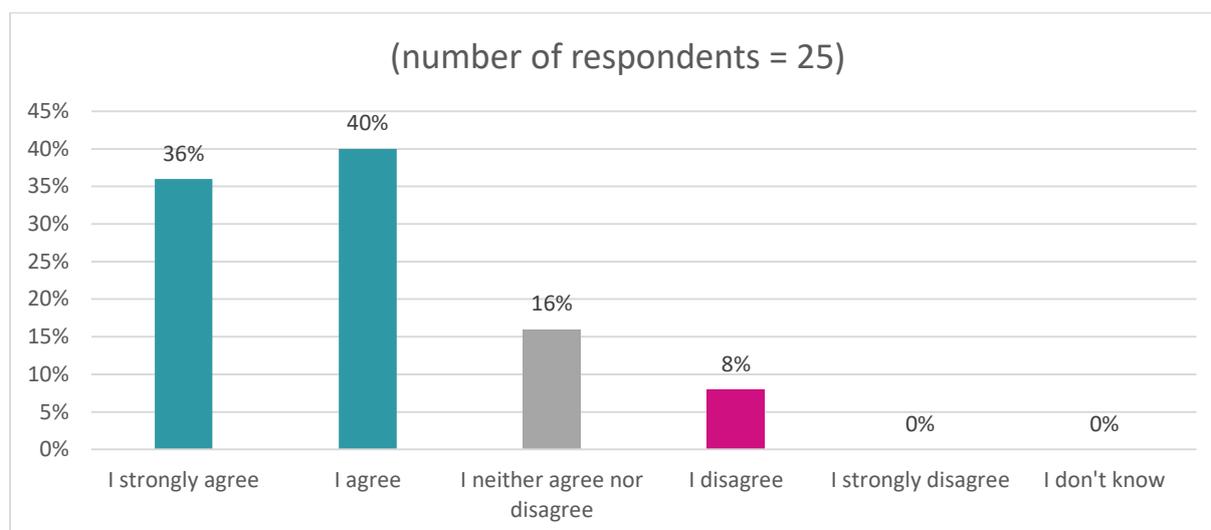
- *Students should take every opportunity to integrate and apply their understanding and knowledge from other subject areas studied during Key Stage 4, with a particular focus on science and mathematics, and those subjects they are studying alongside AS and A Level design and technology.*
- *Due to the need for students to demonstrate expertise in depth in specialist areas, three subject endorsements are available, linked to design disciplines that reflect possible higher education routes and industry.*
- *AS and A Level specifications in Design and Technology subjects must enable learners to:*
 - *be open to taking design risks, showing innovation and enterprise whilst considering their role as responsible designers and citizens;*
 - *develop intellectual curiosity about the design and manufacture of products and systems, and their impact on daily life and the wider world;*
 - *work collaboratively to develop and refine their ideas, responding to feedback from users, peers and expert practitioners;*
 - *gain an insight into the creative, engineering and/or manufacturing industries;*
 - *develop the capacity to think creatively, innovatively and critically through focused research and the exploration of design opportunities arising from the needs, wants and values of users and clients;*
 - *develop knowledge and experience of real world contexts for design and technological activity;*
 - *develop an in-depth knowledge and understanding of materials, components and processes associated with the creation of products that can be tested and evaluated in use;*
 - *be able to make informed design decisions through an in-depth understanding of the management and development of taking a design through to a prototype/product;*
 - *be able to create and analyse a design concept and use a range of skills and knowledge from other subject areas, including mathematics and science, to inform decisions in design and the application or development of technology;*
 - *be able to work safely and skillfully to produce high-quality prototypes/products;*
 - *have a critical understanding of the wider influences on design and technology, including cultural, economic, environmental, historical and social factors;*
 - *develop the ability to draw on and apply a range of skills and knowledge from other subject areas, including the use of mathematics and science for analysis and informing decisions in design.*

In our consultation, we asked:

Question 1: To what extent do you agree/disagree with the proposed subject aims and content for the A Level Design and Technology in Wales?

As illustrated in Chart 1 below, 76% of respondents agreed or strongly agreed with the proposed subject aims and objectives, 16% neither agreed nor disagreed and 8% of respondents disagreed.

Chart 1. Showing responses to question 1 of the AS and A Level Design and Technology consultation.



- Respondents who agreed or strongly agreed with the proposal commented that:
 - “The proposed aims appear to allow for a good level of progression from GCSE”
 - this will “ensure parity” for learners in Wales.
- One respondent who disagreed with the proposal stated that “there should be an opportunity for students to study textiles and fashion at A level”.

Following the consultation, we have decided to retain the proposed aims and objectives, subject to the following minor amendments:

- in 1. ‘Design and technology is an inspiring, rigorous and practical subject’ has been removed
- in 1. ‘Specifications in design and technology’ has been replaced with ‘AS and A Level Design and Technology specifications’
- ‘specifications should enable’ has been replaced with ‘AS and A Level Design and Technology specifications should enable’ and has been documented separately in point 2
- 3. has been replaced with ‘AS and A Level Design and Technology learners should take every opportunity to integrate and apply their understanding and

knowledge from other subject areas studied during Key Stage 4, with a particular focus on science and mathematics, and those subjects they are studying alongside AS and A Level Design and Technology'

- 4.2 has merged with 4.1
- 'students' has been replaced with 'learners' throughout.

These changes are reflected in the *Approval Criteria for GCE AS and A Level Design and Technology (2016)*¹.

Subject Content

Key content areas

For the reformed AS and A Level Design and Technology qualification, we proposed that the subject content should cover the following four key content areas:

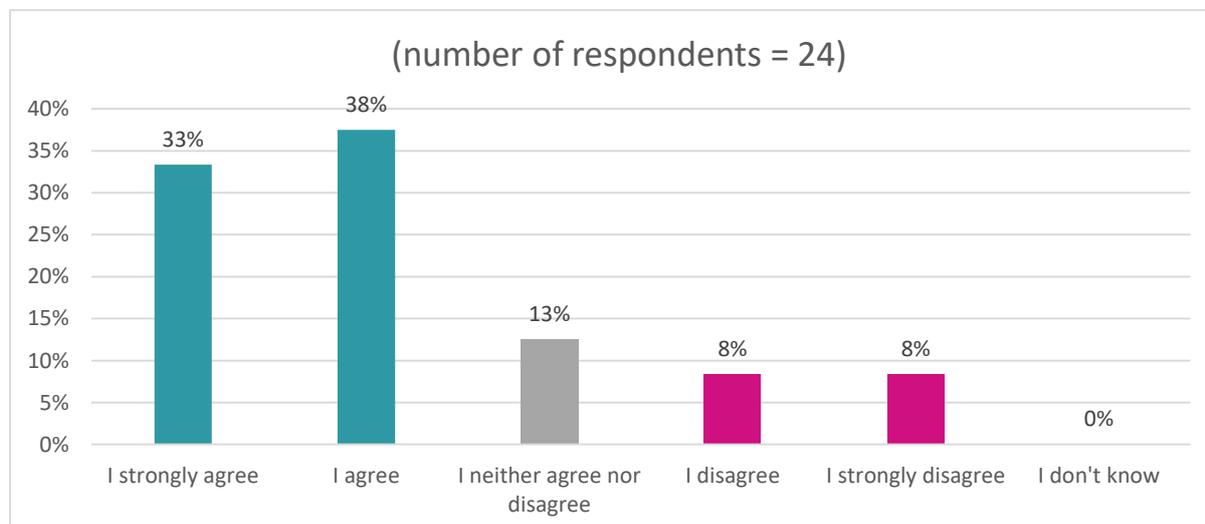
- Design and Technology (Product Design)
- Design and Technology (Fashion and Textiles)
- Design and Technology (Engineering Design)
- Design and Technology (Communication Design)

In our consultation, we asked:

Question 2: To what extent do you agree/disagree with the proposed focus areas for A Level Design and Technology in Wales?

As Chart 2 below shows, the majority (71%) of respondents agreed or strongly agreed with the proposed content areas. Thirteen percent neither agreed nor disagreed and 16% disagreed and strongly disagreed.

Chart 2. Showing responses to question 2 of the AS and A Level Design and Technology consultation.



- A respondent who agreed or strongly agreed with the proposal commented that the proposed focus areas “better reflects the developments at KS4 and will allow a better pull through of pupils”.
- A respondent who strongly disagreed with the proposal stated that Communication Design is an “unnecessary addition”.

We have decided to remove Communication Design leaving three focus areas of Product Design, Fashion and Textiles and Engineering Design to align with AS and A Level Design and Technology in England.

Assessment objectives and weightings

We proposed the following assessment objectives and weightings for the reformed AS and A Level Design and Technology qualification:

Table 1. Proposed assessment objectives and weightings for the reformed GCE AS and A Level Design and Technology.

Objective	Requirements	AS	A2	A Level
AO1	Identify, investigate and outline design possibilities to address needs and wants	10-15%	10-15%	10-15%
AO2	Design and make prototypes ³ that are fit for purpose	20-25%	20-25%	20-25%
AO3	Analyse and evaluate – <ul style="list-style-type: none"> • design decisions and outcomes, including for prototypes³ made by themselves and others • wider issues in design technology 	20-25%	20-25%	20-25%
AO4	Demonstrate and apply knowledge and understanding of – <ul style="list-style-type: none"> • technical principles • design and making principles. 	35-40%	35-40%	35-40%

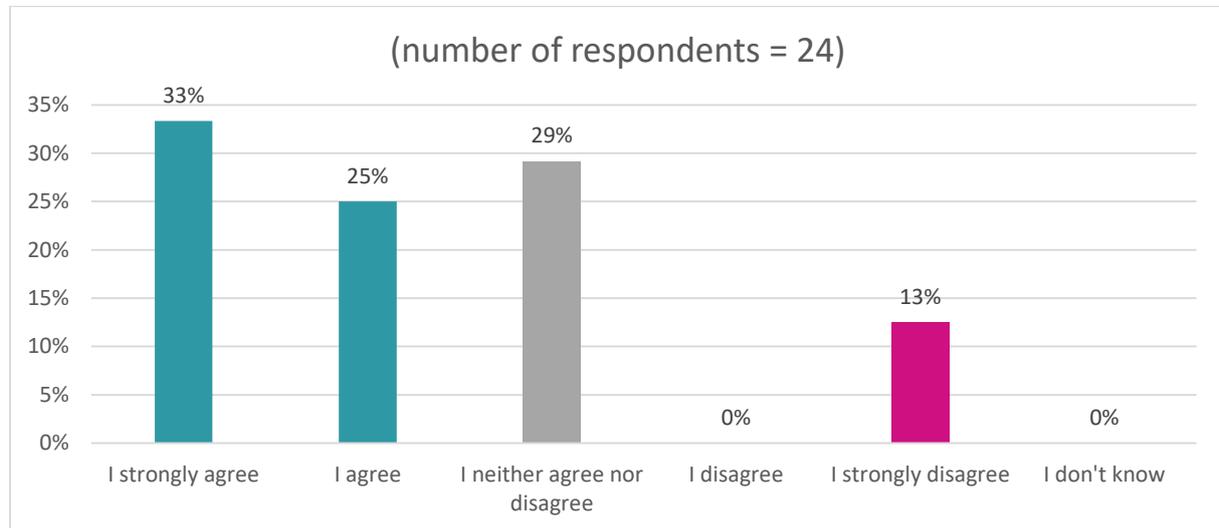
In our consultation, we asked:

Question 3: To what extent do you agree/disagree that the assessment objectives and weightings should apply to A Level Design and Technology in Wales?

³ In this document ‘prototype’ is used to describe all working solutions including products, models and systems.

As Chart 3 below shows, the majority (58%) of respondents agreed or strongly agreed with the proposal, 13% strongly disagreed with the proposal and 29% of respondents neither agreed nor disagreed.

Chart 3. Showing responses to question 3 of the AS and A Level Design and Technology consultation.



- A respondent who strongly agreed with the proposal stated that “this would be a great idea as long as the examination is made fairer”.
- A respondent who strongly disagreed with the proposal commented “the qualification as it currently stands is suitable and meets the needs of learners, universities and industry”.
- One respondent who neither agreed nor disagreed with the assessment objectives and weightings suggested that “keeping AS and A Level equal is good in some respects but a high number of students struggle with the jump from GCSE to A-Level resulting in poor performance at AS Level and sometimes a high number of re-entries during Year 13 whilst undergoing A-Level work”.

The proposed assessment objectives and weightings are reflected in the published *Approval Criteria for GCE AS and A Level Design and Technology (2016)*¹.

Assessment

We proposed that AS and A Level Design and Technology specifications must include non-examination assessment (NEA) which:

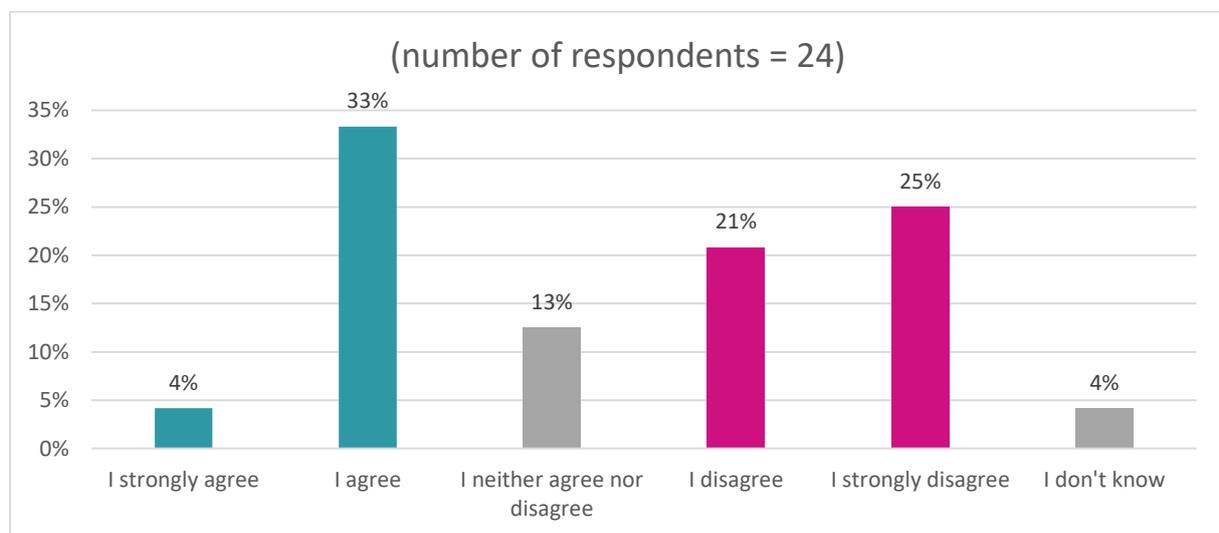
- will be assessed through a portfolio of evidence and a prototype produced by the candidate;
- contributes to 50% of the qualification assessment weighting;
- will include marks allocated from AO1, AO2 and AO3.

In our consultation, we asked:

Question 4: To what extent do you agree/disagree that NEA at AS and A Level Design and Technology should have an assessment weighting of 50%?

Chart 4 below shows that 37% of respondents agreed or strongly agreed with the proposal, 46% strongly disagreed or disagreed with the proposal, with 13% neither agreeing nor disagreeing with the proposal.

Chart 4. Showing responses to question 4 of the AS and A Level Design and Technology consultation.



- One respondent who disagreed with the proposal indicated the importance of experience in developing a knowledge of materials and material properties, stating that
‘this element is intrinsic to the non-examined assessment during which students have the opportunity to explore and test a range of materials that are suitable for their artefacts. The non-examined assessment is also the component that compares more realistically to the real life/work environment that the potential designers and engineers will be involved with’.
- Of the respondents that agreed with the proposal, one respondent commented that
‘with pupils now expected to follow 3 x A levels plus the Welsh Baccalaureate pupils no longer have so much "free time" to carry out the additional studies required in order to be really successful in DT when it comes to the product design element’.

We have decided to include the proposed NEA weighting in the published *Approval Criteria for GCE AS and A Level Design and Technology* (2016)¹.

Support and Resources

In all our consultations, Qualifications Wales asked respondents the following question:

What support and resources do you feel centres and teachers may require to achieve maximum readiness to deliver the revised specification? Please provide comments

Those who responded to this question highlighted, amongst others:

- the need to provide textbooks and online resources;
- the potential benefits of centrally organised INSET training;
- the need for exemplar exam papers and CPD events;
- the need for exemplar exam papers and sample assessment materials;
- and the usefulness of model answers to indicate the expected level of response.

We will share the points raised with the awarding body, consortia and Welsh Government.

Impact on individuals with protected characteristics

In all our consultations, we asked respondents the following question:

Please highlight below if you feel any of this proposal has the potential to have a positive or negative impact on individuals with protected characteristics and whether any of the proposal would cause accessibility issues for learners in Wales.

For the reformed AS and A Level consultation, no respondents highlighted any positive or negative impacts on individuals with protected characteristics.

Further information

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