

# Decisions on Conditions and guidance for GCSE, AS and A level Electronics



In February 2016 we published a consultation about the rules and guidance we proposed to put in place for new GCSEs, AS and A levels in electronics.

This consultation set out draft Subject Level Conditions, requirements and guidance which would apply to all new GCSEs, AS and A levels in this subject.

We have reviewed the responses to the consultation and are now announcing our decisions. We are also publishing a more detailed analysis of the responses alongside this document<sup>1</sup>.

## GCSE, AS and A level electronics

### Compliance with content requirements

We proposed that all reformed GCSEs, AS and A levels in electronics should comply with the subject content requirements published by the Department for Education<sup>2</sup>, and with our assessment objectives.

All the respondents who commented on this proposal supported it. No respondents raised any concerns with this aspect of our proposals.

We have therefore decided to confirm our proposals in this area.

### Assessment of mathematical skills

We have proposed that a minimum of 20 per cent of the marks for GCSE qualifications in electronics and 30 percent of the marks in AS and A level electronics must be allocated to the assessment of the mathematical skills set out in the subject content.

In relation to the assessment of mathematical skills, we proposed that exam boards should:

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<sup>1</sup> [www.gov.uk/government/consultations/gcse-as-and-a-level-reform-regulations-for-electronics](http://www.gov.uk/government/consultations/gcse-as-and-a-level-reform-regulations-for-electronics)

<sup>2</sup> [www.gov.uk/government/publications/gcse-electronics](http://www.gov.uk/government/publications/gcse-electronics) and [www.gov.uk/government/publications/gce-as-and-a-level-electronics](http://www.gov.uk/government/publications/gce-as-and-a-level-electronics)

- assess mathematical skills in the context of other areas of the subject content, and not in isolation;
- allocate at least:
  - 20 per cent of the marks for the qualification at GCSE to rewarding use of mathematical skills at a level of demand which is at least equivalent to Key Stage 3; and
  - 30 per cent of the marks for the qualification at AS and A level to rewarding use of mathematical skills at a level of demand which is at least equivalent to higher tier GCSE mathematics;
- assess mathematical skills across a range of levels of demand which supports effective differentiation between candidates.

Respondents to the consultation supported our approach to the assessment of mathematical skills and we have decided to adopt this requirement in full.

### **Non-exam assessment**

We have previously confirmed that reformed GCSEs, AS and A levels in electronics will be assessed through a combination of 80 per cent exams, and 20 per cent non-exam assessment.

In our consultation, we proposed that at GCSE, AS and A level, non-exam assessment tasks:

- should assess only assessment objective AO3;
- may be set by either the awarding organisation, the centre delivering the assessment, or by the student following discussion with the centre;
- must be taken under conditions specified by the exam board which ensure that the evidence produced can be authenticated and that any electronic system is produced under immediate guidance or supervision;
- must require such evidence as the awarding organisation considers necessary to assess the student's performance, including at GCSE a design brief and an electronic system
- are marked by either the exam board, the centre, or a combination of both.

In addition, to reflect the requirements of the subject content, we proposed that at GCSE, the non-exam assessment task must be an extended system design and construction task.

We received one response which disagreed with our approach to regulating the authentication of the non-exam assessment task. We proposed that any electronic system should be produced by a student under *Immediate Guidance or Supervision*. *Immediate Guidance or Supervision* is a term which is defined in the General Conditions and allows for either supervision by someone that is physically present, or remotely by simultaneous electronic communication (for example a video call). The respondent did not believe that remote supervision could guarantee the authentication of a student's work.

Our requirements do not expressly require remote supervision, but allow for it if an exam board can effectively authenticate a student's work by these means. We would not want to prevent an exam board that could ensure effective authentication of work remotely from doing so. Whether an exam board required authentication remotely or in person, it would still have to assure us that its approach would allow it to authenticate the student's work. As such, having considered this response, we do not propose to change this requirement.

Respondents were supportive of all our other proposals so we have decided to adopt these in full.

## **Guidance**

We proposed to introduce guidance clarifying the interpretation of our assessment objectives. All respondents supported our guidance so we have decided to adopt it in full. We have made one minor amendment to the guidance for AO3 at GCSE and GCE to clarify how the evaluation of electronic systems should be assessed.

## **Next steps**

We have published the following documents which formally introduce our rules and guidance for GCSE, AS and A level electronics:

- GCSE Subject Level Conditions for Electronics<sup>3</sup>
- GCSE Subject Level Guidance for Electronics<sup>4</sup>
- GCE Subject Level Conditions for Electronics<sup>5</sup>
- GCE Subject Level Guidance for Electronics<sup>6</sup>

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<sup>3</sup> [www.gov.uk/government/publications/gcse-9-to-1-subject-level-conditions-and-requirements-for-electronics](http://www.gov.uk/government/publications/gcse-9-to-1-subject-level-conditions-and-requirements-for-electronics)

<sup>4</sup> [www.gov.uk/government/publications/gcse-9-to-1-subject-level-guidance-for-electronics](http://www.gov.uk/government/publications/gcse-9-to-1-subject-level-guidance-for-electronics)

<sup>5</sup> [www.gov.uk/government/publications/gce-subject-level-conditions-and-requirements-for-electronics](http://www.gov.uk/government/publications/gce-subject-level-conditions-and-requirements-for-electronics)

<sup>6</sup> [www.gov.uk/government/publications/gce-subject-level-guidance-for-electronics](http://www.gov.uk/government/publications/gce-subject-level-guidance-for-electronics)