



Programmes of Study for 16-19 years old Consultation

The Advisory Committee on Mathematics Education (ACME www.acme-uk.org) is an independent committee, based at the Royal Society and operating under its auspices, that aims to influence Government strategy and policies with a view to improving the outcomes of mathematics teaching and learning in England and so secure a mathematically enabled population. The response to this consultation has been informed by input from the mathematics community through the ACME Outer Circle, a group assembled to encompass a breadth of knowledge, support and influence which we consult on key issues. Our response is focused on mathematics.

Introduction

ACME welcomes this consultation and particularly the proposals that all should be studying mathematics post-16 in the next decade. ACME is taking a leading role in the mathematics and wider subject communities in seeking to increase the provision and take-up of appropriate post-16 mathematics provision (see our answer to Question 4).

ACME would like the Department for Education to consider and ensure that proposals aimed for vocational programmes are not applied uniformly to academic programmes and vice-versa. We are concerned about proposals such as the suggestion that programmes should be of only 600 glh per year, as this is not sufficient for many normal study programmes such as three A levels and GCSE Mathematics.

Q1) Will the measures listed in the consultation document be sufficient to ensure that the 16-18 study programmes principles are followed?

ACME strongly agrees that students up to 19 who do not have GCSE A*-C in maths should be required as part of their programme to pursue a course leading to a mathematics qualification. However, the qualifications available will need to cover the full range from entry level to level 2.

An ideal level 2 mathematics programme would be designed to give qualifications equivalent (both for employers and for progression purposes) to GCSE mathematics, but should not simply be a repeat of GCSE. Materials would be designed to suit more mature learners, with an appreciation of more authentic contexts. The use of spreadsheets and other modelling software would be integrated and collaborative project work would be included in this programme. Aspects of the Linked Pair of GCSEs would form a natural precursor to this pathway – the pilot scheme is an important part of the jigsaw in designing 16-19 Study Programmes.

After one year, many level 2 learners should be able to progress to the first year of a level 3 programme, but provision for a second year of level 2 study should also be made for those for whom this is not a realistic possibility.

The proposal mentions the role of the Key Stage 5 performance tables in ensuring that mathematics is seen as an important component of post-16 study. ACME would welcome a measure related to progress in mathematics.



Q2) How will this programme of study need to be tailored for part-time students?

Part-time students should be included in the long term goal of everyone studying mathematics post-16.

Q3) How will the proposals affect different providers?

No response.

Q4) In line with this ambition for all to be studying maths post-16 in the next decade, we would be interested to know what you feel could be done to encourage more young people who have already achieved GCSE A*-C to study maths. What would this provision look like?

ACME is taking a leading role in the mathematics and wider subject communities in seeking to increase the provision and take-up of appropriate post-16 mathematics provision. Various stakeholders in the mathematics and STEM communities are supportive of this work. As well as providing advice on the new pathway(s) suggested by this consultation question, ACME also intends to inform both the review of A-level mathematics provision and the next steps for level 2 (and below) mathematics provision post-16.

To inform its advice on the new pathway(s), ACME has committed to produce a briefing paper outlining potential models for the structure and content of the pathway(s) for those students who have previously attained GCSE A*-C in mathematics, but for whom A-level mathematics is inappropriate. This briefing paper will be informed by extensive discussions with the mathematics and other communities (including HE, employers and pre-19 education). It will also be informed by analysis of current level 3 mathematics qualifications, and an understanding of the current programme choices of students with GCSE A*-C, who do not study mathematics currently.

Q5) What can we do to simplify areas where colleges/employers have particular concerns offering students opportunities in the workplace, e.g. insurance, health and safety?

No response.

Q6) What more can we do to remove barriers to providing high quality internships?

One major barrier to employers offering internships is that they often don't see the value of the internship to their business. However, as businesses often comment on the lack of mathematical skills in potential recruits, one way to help remove this barrier could be to package the internship as a way of encouraging businesses to demonstrate the importance of mathematics in the workplace (both in terms of numeracy and more general problem-solving) and so providing a clear link between maths and employability.