## MATHEMATICAL ASSOCIATION



supporting mathematics in education

17 December 2013

Rt Hon Michael Gove MP Secretary of State Department for Education Sanctuary Buildings Great Smith Street London SW1P 3BT ministers@education.gsi.gov.uk

Dear Secretary of State,

Re: New A levels: subject content consultation

The Mathematical Association welcomes your desire to improve A levels and the opportunity afforded by the current consultation to respond to the proposals you have put forward. We are making this response jointly with the Association of Teachers of Mathematics and the Institute of Mathematics and its Applications. Although the bulk of the consultation is particular to those subjects which will be reformed in 2015, some more general matters are treated and it is to the consequences of these for mathematics that we address our comments. We are particularly concerned that decisions made for subjects reformed in 2015 do not create precedents that bind subsequent decisions about Mathematics and Further

Along with the overwhelming majority of the mathematics community, we welcome your decision to delay changes to mathematics until 2016. Nevertheless, the timescale remains challenging if all is to be in place in time for providers to be ready for a September 2016 start. Mindful that ALCAB will need to make its recommendations about mathematics by the summer of 2014, we are pleased to note that it is now appointing its subject panels but steps will need to be taken to engage with other stakeholders, with sufficient time being allowed for that to take place. It is vital to the success of the reforms that they combine realism with ambition and, in particular, they have a prudent recognition of the mathematical competence and sophistication of students at the beginning of their courses and of what can be safely achieved in one round of reform, especially when any changes to content will be taking place alongside changes designed to strengthen students' problem-solving and analytical skills.

Numbers taking AS and A level Mathematics and Further Mathematics have shown rapid and sustained growth in recent years; it is vital to the futures of our young people, and the country as a whole, that these gains are not put at risk. To that end, it is critical that the content developed is attractive to potential students with a wide range of progression goals. Many consider that flexibility in the choice of units and being able to use these in either Mathematics or Further Mathematics qualifications have been important features in achieving the increasing popularity and they need to be retained, especially for students taking Further Mathematics.

Mathematics is perceived by many as a valuable but difficult subject and it is key that students have open to them the alternative goal of an AS level as well as that of an A level. To that end, we wholeheartedly support your commitment to the co-teachability of AS and A level, with the AS level content forming a subset of the A level content. Not only is co-teachability essential to ensuring the practicality of widespread provision of AS level mathematics, it also allows learners to modify their qualification goals in the light of experience.

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The re-development of AS and A level Further Mathematics will be particularly challenging and may need innovative solutions that will require the general principles of reform to be applied sensitively and flexibly. We would be happy to discuss these matters further with you or your officials.

Yours sincerely,

Adam C. McBride

Professor Adam McBride Chair of Council