Case study
Xaverian College’s experiences of offering Core Maths
In this case study, Alex Jacques-Williams, Head of Mathematics at Xaverian College, Manchester, describes the college’s experience of introducing Core Maths. He outlines the benefits and challenges it has brought, and how the college has tapped into support provided by the Advanced Mathematics Support Programme (AMSP) and local Maths Hubs.

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Head of Mathematics

Studying Core Maths has been hugely beneficial to students in maintaining their mathematical skills from GCSE and developing these skills further. It positions students well for progression to future study or employment that requires skills in quantitative reasoning and critical analysis. Many students have found the style of Core Maths has given them a new insight into the subject, and they have enjoyed seeing how maths can be applied in a wide range of meaningful contexts, either relating to their other courses of study or in everyday situations such as personal finance.

Colleagues have embraced the opportunity to develop a different pedagogical approach, allowing them to explore and stretch their own understanding of applications of maths. The focus on problem solving and modelling has supported the development of new ways to deliver the overarching themes within the new specifications for A levels, and breathed life into teaching statistics.

The college currently has around 80 students studying Core Maths; 370 studying AS/A level Mathematics; 60 studying AS/A level Statistics; and 55 studying AS/A level Further Mathematics. Sustaining a broad course offering brings many challenges. As a large sixth form college, we can be quite confident that we will be able to fill our courses, but often we do not know how many classes we might need to offer. This means that staff flexibility is vital. Leading into the new A level specifications we ensured our maths staff were prepared to deliver all content. We benefitted from a mixture of Further Mathematics Support Programme and Core Maths Support Programme support, and also in-house CPD. Going forward, it will be highly beneficial to have the combined support for all level 3 maths courses through the AMSP.

A further challenge is sustaining the current Core Maths offering. Fortunately we benefit from the Advanced Maths Premium, having maintained a similar size A level cohort to the baseline numbers (calculated for academic years 2015-16 and 2016-17). We have also sought to position Core Maths alongside the Extended Project Qualification (EPQ) as an enrichment qualification. More significantly, we have promoted and used it as a facilitating course for Science and Social Science, especially for students without the minimum maths qualification for these courses; in these cases taking Core Maths is a condition of the course.

We are extremely fortunate to have a great team of AMSP Area Coordinators locally who are well-connected with our local Maths Hubs. They offer a comprehensive range of enrichment activities for many of our courses, and are always willing to offer bespoke activities if asked. The CPD courses offered by the AMSP are very useful, especially for any new staff, to get them up to speed with new content quickly. This year we have made use of the Further Maths CPD courses, while last year two members of our staff successfully completed the TAM (Teaching A level Mathematics) course.

The AMSP/Maths Hub partnership Work Groups for Core Maths, A level Pedagogy and Using Technology provide excellent opportunities to network and share experiences with other colleagues as well as bringing new ideas and strategies to the department.

We hope that the AMSP will be funded to maintain their provision well into the future as they provide a significant resource in supporting the continual improvement of our department through CPD, networking and resource production. In these cash-strapped times having most of this provided free of charge has proved essential.
The Xaverian maths department strongly supports the college’s ethos of inclusivity, seeking to give opportunities for all students to fulfil their potential. To meet this vision we offer a full range of level 3 maths courses so that no matter a student’s entry qualification we have an option for them to continue to study maths post-16.

We believe this policy improves students’ life skills, supports their study of other subjects and, perhaps most importantly, gives them an opportunity to enjoy and challenge themselves with further mathematical study.

To do this we offer A levels in Mathematics, Statistics, Further Mathematics (including an AS option) and level 3 Core Maths.

- Alex Jacques-Williams
Head of Mathematics at Xaverian College
I began working as an Area Coordinator for the AMSP in September 2018, based at Xaverian Sixth Form College and supporting all state-funded schools and colleges in Cheshire East, Manchester, Salford, Stockport, and Trafford. I currently teach level 3 Core Maths alongside my role as an Area Coordinator.

Working at Xaverian College has given me great insight into the range of maths pathways for post-16 students. Core Maths in particular plays a vital role, not only supporting students with the mathematical content in their other subjects, but providing an opportunity for students to continue with their mathematical study in situations when A level Mathematics may not be appropriate.

In talking to local providers I hear that the challenges for schools and colleges in offering the full range of level 3 maths qualifications generally centre around staffing, training and funding. Schools with small sixth forms might also face the additional challenge of low uptake, especially for Core Maths and Further Mathematics. The AMSP provides wide-ranging support for schools, including advice for setting up Core Maths and Further Mathematics. The Advanced Maths Premium can provide significant financial support to schools and colleges to increase the numbers of students studying level 3 maths qualifications, and the AMSP provides advice and material to help promote the options to students.

I have found that institutions have been most successful in setting up Core Maths by emphasising the importance of the cross-curricular links. Once staff from other departments are introduced to the qualification and its aims, and can see its value in supporting the delivery of their own mathematical content, the uptake grows significantly. I can also speak from experience that students in my Core Maths class take great reassurance that they are encouraged to ask for support with any mathematical content from their other subjects that they have struggled with.

Other examples of AMSP support for students include Further Mathematics tuition and A level Mathematics problem solving sessions. In the latter, students have enjoyed learning how to tackle unfamiliar problems and develop resilience in doing so. It has been pleasing for me to observe the students turning into independent mathematicians as the weeks have gone by.

The AMSP provides a wide range of professional development courses for staff, and collaborates with the local Maths Hubs to support their Work Groups. I currently lead a Core Maths Work Group in Manchester, and I have seen how valuable it is for teachers to have a sustained opportunity to collaborate and share ideas. Feedback has indicated that the professional development provided by the AMSP and Maths Hubs has increased teachers’ own confidence in delivering level 3 maths courses, which in turn results in improved experiences for students.

You can contact me to discuss the AMSP support available in my area: andrew.birch@amsp.org.uk or visit the North West regional page of the AMSP website: amsp.org.uk/region/north-west.