

Pembroke College will welcome A-level students as part of STEM SMART pilot programme to address educational disadvantage



Pembroke is delighted to be among the Colleges hosting A-level students taking part in the pilot STEM SMART widening participation initiative, offering enhanced learning, encouragement and mentoring.

‘At Pembroke we are absolutely delighted to be able to participate in the new STEM SMART pilot programme, which will offer fantastic opportunities to lots of students. Our mission at Pembroke is to be open and welcoming to students from all backgrounds, and a place where talented young people can flourish in a diverse and inclusive community. In equipping bright young scientists with further skills and experience, STEM SMART will provide a vital bridge to many who might have thought applying to Cambridge would not be an option for them.’
Dr Caroline Burt, Director of Admissions, Pembroke College.

The 17-month STEM SMART (STEM Subject Mastery and Attainment Raising Tuition) programme will support students’ studies in science and maths throughout their final year-and-a-half at school, from the second term of Year 12 to their Year 13 A-level examinations. It is being launched to help bridge attainment gaps, mitigate educational disruption caused by the COVID-19 pandemic, and address the UK’s skills shortage in STEM subjects.

Lord Smith, Master of Pembroke, praised STEM SMART as, ‘A brilliant new initiative to give many students who wouldn’t otherwise have the chance, the opportunity to develop their skills and confidence in science, engineering, technology and maths subjects. I’m very proud that Pembroke is part of the launch.’

Beginning in January 2022 - following its launch today - the programme also aims to build confidence in talented students who have experienced educational and social disadvantage, and motivate them to apply to study Engineering or Physical Sciences (such as Physics, Chemistry, and Materials Science) at university, including at Cambridge. It is expected that many joining the programme will be at schools with little or no experience of sending students to Cambridge, so those who actively take part will be invited to attend a four-day residential in Cambridge. Pembroke is one of the Colleges providing accommodation during the pilot phase.

The programme will support teaching already taking place in schools, providing extra resources such as weekly, real time, online tutorials by Cambridge academics, who will mark work and give students individual feedback. It will also include live online motivational lectures, and students will be assigned a Cambridge student as a mentor, to speak to about university life and help support their continued engagement with the programme.

STEM SMART is open to students at non-fee-paying schools from Widening Participation backgrounds. This will include students who live in areas of high deprivation, those who have been eligible for free school meals at any point during their secondary schooling, those who are care-experienced, those at schools unable to offer further mathematics as an A-level, and mature students who are self-studying, among others.

The University is in contact with around 3,000 state schools across the UK about STEM SMART, and aims to enrol around 750 A-level students for the start of the pilot, much of which will be delivered through the [Isaac Physics](#) online platform. It will be free to all students taking part, following generous support and funding from the University, Colleges and the Department for Education England.

STEM SMART will also help students who do not wish to apply for undergraduate study at Cambridge to make competitive applications to STEM courses at other universities, with sustained engagement on the programme leading to an award that can be included in their UCAS personal statement as an example of super-curricular activity.

Physics lecturer Dr Lisa Jardine-Wright, who is co-directing the STEM SMART programme, said she herself would have benefited from a similar initiative during her own education. “By providing extra subject specific resources that just aren’t available in every school, this pilot will complement students’ classroom learning, improve their problem-solving skills, and help them get better grades.

“It’s also about motivational support and building confidence, and while helping students to maximise their attainment the programme aims to encourage those who take part successfully to apply to study at Cambridge, or another higher-tariff university. Small group supervisions, and a four-day residential ‘boot camp’ later on in the programme will offer students a taste of life as a Cambridge student, and advice and guidance on applying to Cambridge, if they choose to, including preparing for admissions assessments and interviews.”

David Buckley, Head of Physics at Mayflower High School, an academy in Billericay, Essex, said: “Our students have had an unprecedented, difficult time in their education, so this additional tuition – the extra time and detail that teachers want to give but because of the demands of the job sometimes can’t – is hugely welcome, particularly now.

“Being able to meet and work with Cambridge University experts and current Cambridge undergraduates, to see how they approach particular problems, and find out about life around their courses, really is a unique opportunity for our students. All teachers want their students to do as well as possible and achieve their potential, whether that’s at Cambridge or another top university.”

Dr Michael Sutherland, co-director of STEM SMART, and Director of Studies in Natural Sciences at Corpus Christi College, said: “Building on Cambridge’s work to find innovative new ways to further diversify our student body, the programme will offer enhanced additional learning to support the vital work of teachers, give students the specific skills they need to prepare for university, and boost innovation and technology in the UK by helping to address the skills shortage in STEM.”

Professor Stephen Toope, Vice-Chancellor, said: “COVID continues to exacerbate existing inequalities in education, and many schools face an unprecedented challenge dealing with the legacy of the pandemic. As part of the University’s mission to contribute to society through the pursuit of learning, the STEM SMART programme will bolster the studies of A-level students at non-fee-paying schools, from their first year all the way through to their exams. This is support for those talented students who need it most, at a time when it is needed more than ever.”

The programme continues widening participation progress made by the University in recent years, including the launch of a [Foundation Year](#) for Arts, Humanities and Social Sciences, which from 2022 will offer talented students from backgrounds of educational and social disadvantage a new route to undergraduate study, and the use of UCAS [Adjustment](#) to reconsider candidates who exceed expectations in examinations.