Twyford CofE Academies Trust

Trust Advanced Programme (TAP)

The Trust Advanced Programme is a programme designed for students who have achieved an average of grade 7.5 or above in their GCSEs. The programme is there to push students who are targeted A/A* in their A Levels and support them to develop the critical thinking skills necessary to apply for competitive courses at top universities, including Oxford and Cambridge.

All students will receive weekly lessons covering wider reading, critical thinking skills and advanced academic coaching. This will encompass a range of subjects, including subjects not studied at A Level including Law, Medicine and Engineering.

We also offer targeted Oxbridge preparation, including taught lessons, a Trust Oxbridge summer school, mock interviews and tailored personal statement support.

Students will further have the opportunity to join specialist strands in the following areas:

- Engineering Scholars
- Medic Scholars
- Maths Stretch

Students are given the opportunity to complete either an Extended Project Qualification or CREST award during year 12 and the start of year 13.

Any questions please email Ms Fancourt (Trust Advanced Programme Co-ordinator) at mfancourt@williamperkin.org.uk.

General Advanced Sessions

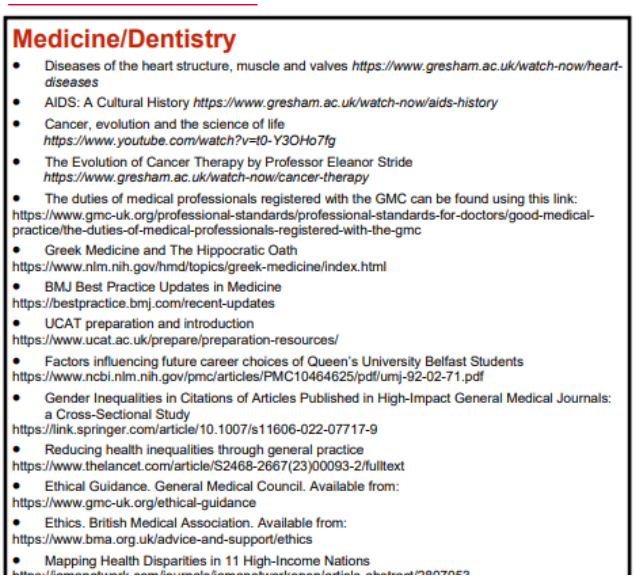
These weekly sessions are for all students in Year 12 on the Advanced Programme and contain intensive academic coaching as well as activities preparing students for application to top universities.

Students can expect:

- Development of independent research skills
- Introduction to critical thinking
- Introduction to the Socratic method
- Tailored wider reading opportunities
- Mini research projects on current affairs
- Preparation for university admissions tests
- Preparation for university interviews
- Guidance on competitive open days and summer schools
- Personal statement support

Wider Reading:

To ensure the strongest possible university applications, students will need to have read around their interests within their chosen field. Students will receive a monthly Wider Reading Newsletter, with 21 different subjects included. For each subject, there will be articles, books, podcasts, documentaries, free exhibitions and lectures in London.



Medicine/Dentistry

- Diseases of the heart structure, muscle and valves *https://www.gresham.ac.uk/watch-now/heart-diseases*
- AIDS: A Cultural History *https://www.gresham.ac.uk/watch-now/aids-history*
- Cancer, evolution and the science of life *https://www.youtube.com/watch?v=t0-Y3OHo7fg*
- The Evolution of Cancer Therapy by Professor Eleanor Stride *https://www.gresham.ac.uk/watch-now/cancer-therapy*
- The duties of medical professionals registered with the GMC can be found using this link: https://www.gmc-uk.org/professional-standards/professional-standards-for-doctors/good-medical-practice/the-duties-of-medical-professionals-registered-with-the-gmc
- Greek Medicine and The Hippocratic Oath https://www.nlm.nih.gov/hmd/topics/greek-medicine/index.html
- BMJ Best Practice Updates in Medicine https://bestpractice.bmj.com/recent-updates
- UCAT preparation and introduction https://www.ucat.ac.uk/prepare/preparation-resources/
- Factors influencing future career choices of Queen's University Belfast Students https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10464625/pdf/umj-92-02-71.pdf
- Gender Inequalities in Citations of Articles Published in High-Impact General Medical Journals: a Cross-Sectional Study https://link.springer.com/article/10.1007/s11606-022-07717-9
- Reducing health inequalities through general practice https://www.thelancet.com/article/S2468-2667(23)00093-2/fulltext
- Ethical Guidance. General Medical Council. Available from: https://www.gmc-uk.org/ethical-guidance
- Ethics. British Medical Association. Available from: https://www.bma.org.uk/advice-and-support/ethics
- Mapping Health Disparities in 11 High-Income Nations

Oxbridge Preparation

This is aimed at preparing students for the application to Oxford or Cambridge University (Oxbridge).

In Year 12, students can expect:

- Lessons introducing the Oxbridge system
- Detailed look at course and college data
- A Trust Oxbridge preparation summer school
- Oxbridge-specific personal statement support
- Information regarding open days, masterclasses and summer schools at Oxford and Cambridge
- Information and support in applying for mentoring schemes
- Specific guidance for students of African and Caribbean heritage

In Year 13, students can expect:

- Interview workshop
- A mock Oxbridge interview held by governors, directors and lead members of staff
- One-to-one support in writing and editing personal statements

UNIVERSITY OF CAMBRIDGE

UNIVERSITY OF OXFORD

Engineering Scholar Programme

The Engineering Scholar Programme is aimed at students wishing to pursue an Engineering based university degree. The programme will support students to learn about studying this popular subject at university along with the huge variety of careers it will open up.

In Year 12 students can expect:

- Sessions introducing different types of engineering
- Mini-research projects based on engineering in current affairs
- Biomaterials and tissue engineering course
- Debates
- Interview practice
- Scientific modelling and evaluation
- Workshops on topical engineering issues

In Year 13 students can expect:

- Tailored personal statement support
- University interview training

Medic Scholar Programme

What is the Medic Scholar Programme?

Medic Scholar is a program for aspiring doctors and dentists. The program runs for two years supporting like-minded individuals through the exciting and challenging journey to becoming a medical professional.

In Year 12, students can expect to attend:

- Support sessions designed to help students develop their medical portfolios ready for university applications
- Information about work experience and volunteering
- Discussions and presentations on Medical Ethics and NHS 'hot topics'
- Personal statement support
- Imperial Poster Competition
- Book club
- Pharmacy talk and information
- UCAT advice and guidance
- UCAT webinars

In Year 13, students can expect to attend:

- UCAT strategy sessions
- Personal statement workshops
- Mock interview advice and preparation sessions
- Mock interview practice following the more commonly used MMI style of interview

External Speaker Program

There is a program of external speakers, many of whom specialise in the medical field. Talks take place in the afternoon and students are strongly encouraged to attend these talks to widen their understanding of different medical disciplines.

Maths Stretch

The Maths Stretch programme is designed to support students preparing for rigorous university admissions tests in mathematics, in addition to their A-Level studies. These tests are essential differentiators for entry into top universities and include:

- **TMUA**: Test of Mathematics for University Admission
- **MAT**: Maths Admissions Test
- **STEP**: Sixth Term Examination Paper

Students are taken through a demanding scheme of work and are required to complete additional problems outside lessons. Highly regarded by our highest achieving mathematicians, stretch lessons introduce students to undergraduate-style problem-solving, featuring questions that are longer and less structured than those typically encountered in A-Level Mathematics and Further Mathematics exams. Students aiming for top universities to pursue a degree in mathematics or a related field are strongly encouraged to attend these weekly sessions.

The Year 12 Stretch programme formally begins after the Autumn half-term, covering key topics such as:

- Trigonometry and Geometry
- Differentiation and Integration
- Logarithms and Powers
- Algebra, Polynomials
- Primes and Proof, Recursion

In Year 13, students may be required to sit one or more admissions tests. To prepare, students work through past papers with the support of specialist maths teachers and participate in a mock exam to hone their examination technique.

Both Year 12 and Year 13 students in the Stretch programme also take part in the Senior Maths Challenge. A significant proportion of our students, well above the national average, achieve gold medals and progress to the follow-on Kangaroo and Olympiad challenges.

We offer MEI, ritangle national problem solving programme for KS5, we enter teams who solve a weekly problem until the final question, racing against other teams in the country. We also enter girls into the Girls Maths Olympid. There is a target Year 13 A* students, these are students who want to either study Maths at University or are on the border for an A*

Extended Project Qualifications

These projects involve detailed research into any topic of the student's choice, allowing students the opportunity to go outside and beyond their A Level subjects. Students will do the vast majority of this research over the summer holidays at the end of Year 12 and will work one to one in the autumn and spring term with a supervising member of staff to turn this research into a piece of extended writing.

The projects can take the form either of a 5000 word essay, or an artefact (such as a piece of art, a science experiment or a film etc) accompanied by a 1000 word essay.

This essentially equips students with the skills needed to bridge the gap between A Level and undergraduate style learning, as well as looking very impressive on personal statements.

It also supplies university interviewers with a topic to discuss with the applicants, which can demonstrate the breadth and depth of the students' knowledge and interest in their subject.

Examples of previous projects:

University Course	EPQ Title
History and Politics	Given the radical ideas present in the country at the time, why was the English Civil War outcome so conservative?
Animation	To what extent are animated features able to display complex emotions?
English Literature and Drama	Should censorship exist in the theatre?
Geography	What is the effectiveness of COP21 in aiding developing countries with the transition to greener climates without inhibiting economic development?
Aeronautical Engineering	To what extent have aeronautical advances been responsible for globalisation?
Medicine	How effective are treatments of secondary cancers in primary sites?
Economics	An ongoing slump - The Japanese Economy 1990-2010
Maths and Computer Science	How effective is game theory at helping AI to win computer games?
English Literature	How has the Cinderella story of 'rags to riches' evolved?
Politics	Are we living in 1984?

CREST

CREST is a chance for students to complete their first ever science research projects. It is encouraging students to think like scientists and engineers. It is an opportunity to apply science to every day life, using skills such as creativity and communication.

The project has to offer an original contribution to a STEM field of stud and therefore the project is completely unique. During the project students hone their investigative skills and employ scientific method to conduct their own piece of research.

At the end of the project students present their final projects at Imperial College and receive their awards if they have met all the CREST criteria

Over the last few years students have had successful projects in building and testing historically accurate catapults; investigating the feasibility of mining near Earth asteroids; testing pollutant levels at different sites across the River Brent; investigating antibacterial properties of common herbal remedies; and creating and testing polymers made from different vegetables.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