PROGRAMME COURSE: BROADEN YOUR CONTEXT

Top universities in the United Kingdom have a significant interest in their students being able to demonstrate genuine interest and passion for the subject they intend to study. The courses offered through the Downing College Summer Programme can showcase further involvement in fields of study that are highly relevant to university studies and help support students to be applied in their approach and understanding.

The programme includes a series of small group teaching sessions provided by subject specialists at the University of Cambridge. As part of this interdisciplinary and multi-cultural experience, you will attend lectures, participate in small group workshops, visit University of Cambridge museums, and go on city excursions with students from around the globe. While the formal teaching will allow students to deepen their theoretical understanding, students will also be introduced to the practical application thereof when visiting Cambridge’s museums and giving their final presentations. Lastly, each student will be given the opportunity to showcase their newfound skills and knowledge in an academic presentation.

The four-week course will include two weeks of virtual coursework and two weeks of residential courses at Downing College. Depending on the student’s chosen in-person subject, they will attend online classes related to pure maths, applied maths, essay writing, and/or research methods. This online component will run as a precursor to the in-person summer school, ensuring students are prepared to fully delve into coursework upon arrival.
SUBJECTS OVERVIEW

MATHEMATICS

This course enables students to enhance their theoretical understanding of mathematics, gain confidence in computational skills, and apply mathematical concepts to real-world situations while fostering critical thinking about global equity in maths and science. They will be exposed to the diversity of mathematical learning at Cambridge and the latest scientific innovations, guided by experienced teaching staff.

PSYCHOLOGY

The Psychology course delves into the study of the mind, behaviour, and human experience, blending scientific research with conceptual exploration to address fundamental questions about humanity. Covering diverse areas like cognition, ethics, and methodology, the course invites students to engage in discussions on core psychological issues, and is an ideal academic experience for those interested in pursuing Psychology at university level, or those curious about the workings of the mind and behaviour.
**LAW**

The Law course offers a stimulating exploration of the rules governing individual and societal behaviour. This dynamic course touches upon some of the fundamental university legal modules and practical skills, while encouraging critical thinking about contemporary legal issues and career opportunities.

**COMPUTER SCIENCE**

The Computer Science course offers students the opportunity to enhance their programming, coding, and mathematical skills while exploring relevant topics such as AI and machine learning, benefitting from exposure to the latest innovations, and receiving expert instruction in this essential discipline.

**HSPS**

HSPS (Human, Social, and Political Science) is the core subject for those studying humanities at the University of Cambridge. It encompasses many areas of human, social, and political sciences. We offer students the opportunity to dive deeper into some of these aspects, while equipping them with the general skills needed to succeed at studying a humanities degree at university. The intimate setting of small classes is ideal to facilitate the argumentative approach needed to excel in the humanities.
CHEMISTRY

Our Chemistry course offers comprehensive theoretical insights, problem-solving skills, exposure to cutting-edge research, and academic debate of complex subject matters to prepare the students for studying at a UK university. The course will push you to ignite your passion for chemistry and is aimed to equip you with the knowledge and confidence required to succeed in your further education.

PHYSICS

We will delve into the core principles of physics and more. By integrating theoretical foundations with discussions on the practical necessities within contemporary physics research, the course fosters innovation and motivates students to take a closer look at the more captivating and pioneering areas of physics.

ECONOMICS

The Economics course at Downing College is designed to challenge students by introducing them to university-level subject matters, as well as teaching students how to critically engage with more complex ideas as they would at a UK university. Furthermore, the course will provide the opportunity for students to apply their theoretical knowledge to real-world scenarios, to deepen their understanding of the subject matter and be ready for their studies in the UK.
ENGINEERING

We will explore the fundamentals of engineering and beyond. By combining theoretical fundamentals with the debate of practical considerations required in modern academia, the course spurs creativity and encourages students to venture further into exciting and innovative fields of engineering.

BIOLOGY

We will engage with the foundational aspects of biology and beyond. By merging theoretical underpinnings with discussions on the practical requisites inherent to modern biological studies, this course fosters creativity and inspires students to explore further within the captivating and innovative realms of biology.