



St Anne's College
University of Oxford

Hong Kong Summer School 16 to 20 July 2018

Hosted by the Diocesan Boys' School, Hong Kong

Sponsored by Patrick Huen and Bernard Man

St Anne's is delighted to be returning to Hong Kong in 2018 with its third St Anne's College Hong Kong Summer School. First offered in Hong Kong in 2014, and again in 2016, the St Anne's HK Summer School is aimed at high-achieving and enthusiastic 16 year olds who are interested in studying at university. The Summer School is designed for students who are curious about the world, who would like to explore subjects in greater depth, and who are interested to see what it is like to work with Oxford academics, as if they were Oxford University students. Some of the disciplines on offer are ones that students would not have had an opportunity to study at school and these subjects will give students an appreciation of the additional disciplinary possibilities available for study at university level. This time, multi-disciplinary themes will offer participants the chance to explore intriguing questions from two or even three subject angles. Thematic teaching will encourage students to understand the multiplicity of approaches and disciplines that help inform society's understanding of cross-cutting global issues, its built environment, and important cultural concepts like language and music.

Over the first four days of the Summer School, students will have the opportunity to study two of the five exciting themes on offer:

A The new science of identification: prime numbers, machine learning, DNA, and who you are

Dr Graham Nelson, Dr Michal Przykucki, Professor David Harris, and Dr Peter Judge

The future holds many exciting possibilities for identifying people. This course will draw from **Mathematics**, **Computer Sciences** and **Biochemistry** to explore some of these possibilities in more detail. During the course you will be able to take samples of your own DNA and test them in a laboratory setting. You will explore number theory and its application to cryptography, authentication and probability and we will consider how DNA testing works and why probability is important. You will also discover how machine learning can help to determine who individuals are within a social network, the good and the bad, an increasingly important issue in our digital world.

B Wacky ways with cool classics: Talking about great works of literature and music

Dr John Traill, Dr Shannon McKellar Stephen, Dr Daniel Matore, and Dr Robert Stagg

How we understand texts is influenced by everything we have heard and read before, by what was happening at the time the text was written, and by current ideas with which society is engaged. This course will allow you to think and talk about great works of **Music** and of **English Literature** in contemporary ways. You will gain a deeper understanding of well-known works and be equipped to talk about them in new and exciting ways.

C Understanding structures: From the subatomic to the large-scale

Professor Neville Harnew, Professor Norman McCubbin, Dr David Collins, and Dr Edmund Tarleton

The world around us is made up of structures ranging from the subatomic to the 'mega' level. This **Physics** and **Material Sciences** course will utilise a collection of interactive and practical demonstrations and talks to explain underlying theories that will help you to understand structures. Through real life examples and exercises you will: explore how the fundamental forces of nature are transmitted and interact with matter at very small distances, learn how to measure the gravitational force of the Earth, build an audio speaker to demonstrate how the interaction between electromagnetism and matter can produce a sound, learn about mechanical forces and the failures of large structures, explore object vibration and estimate the age of the universe.

D What is a human being? Medical Science, the brain, and human culture

Professor Francis Szele, Professor Robert Chard, and Dr Zoi Alexopoulou

The sciences and the humanities are often thought of as different worlds. This course will explore how the sciences and the humanities join forces in an innovative way to help us understand what it means to be a human being. Utilising **Medical Sciences** you will explore how the brain develops from stem cells, dissecting animal brains and becoming familiar with the major anatomical subdivisions responsible for higher functions. Utilising examples from **Oriental Studies** you will also look at how the brain is able to produce language and culture. You will be introduced to how the human culture function works, and then examine the emergence of two advanced, large-scale civilizations in the ancient Mediterranean (the Roman Empire) and China (the Qin and Han empires) at almost the same time over 2000 years ago. You will be exposed to classical Chinese language examining simple passages from ancient texts, including the *Zuo zhuan*.

E The changing world around us: The nature, politics and law of climate change

Professor Don Porcelli, Professor Gareth Davies, and Professor Antonios Tzanakopoulos

Throughout the world, natural disasters are doing more damage than ever before: 17 of the 20 costliest floods, earthquakes, hurricanes and other such disasters in world history have taken place since the year 2000. Why should that be? This course will draw on **History, Earth Sciences** and **Law** offering you the opportunity to explore climate change from three different perspectives. You will examine how global cities at risk from climate change are dealing with the rising threat of catastrophic flooding. Utilising real world examples you will have an opportunity to develop alternative political responses, and form a sense for the advantages and difficulties associated with them. You will also consider the rapidly changing Arctic Ocean, exploring some of the tools scientists use to document changes and understanding how the decreases in ice cover will further global warming, impact marine ecology, and open the region to human activity. Additionally you will explore the nature and structure of the international legal system and discuss the international legal framework regarding climate change and the impact participation in, and departure from, these agreements has on the world.

Oxford Explained

The final day of the Summer School will provide participants with an overview of Oxford University and give valuable insights into its admissions process and what makes a strong application.

St Anne's College would like to thank Patrick Huen and Bernard Man for their generous support, without which this summer school would not have been possible.

Contact

To find out more, please contact our International Summer School team at international@st-annes.ox.ac.uk.

Note: Summer School content subject to change. Final details and updated information will be available on the website <http://www.st-annes.ox.ac.uk/current/st-annes-international>.

