



SOMERVILLE COLLEGE
UNIVERSITY OF OXFORD

Virtual Study Days, February 2022
Academic Taster Sessions

Tuesday 22nd

COMPUTER SCIENCE: There's More to Programming Than Programs

The computer programs we write — even simple ones — don't always work exactly as expected the first time we run them. So we debug them. Debugging code is an important part of software development, but it's dangerous to rely on it as the only way of convincing ourselves (and perhaps our clients) that our programs work.

Robust, well-engineered software has already undergone a lot of testing and debugging before anyone starts writing it up as runnable code.

In this session I'll look at how we can use mathematics and logic in developing programs, to help us ensure that the code we end up with really does what we expect it to do.

This session is suitable for anyone currently studying Mathematics and/or Computer Science who is interested in studying Computer Science or a related subject at university.

Wednesday 23rd

ENGLISH: 'Tell me what I am!' Some Old English Riddles and their Solutions

In this taster session, I will introduce you to some of the oldest writings in English. We will think about some of the differences – and similarities – between poetry written in the past and poetry written today, and we will investigate what these ancient texts can tell us about the people who wrote and read them.

This will be of particular interest to anyone thinking about studying English at university, but anyone is welcome.

MATHS: Equations and Symmetries

The general solution to a quadratic equation $ax^2+bx+c=0$ is given by a simple formula involving square roots. But is it possible to give a general formula for the solution of a cubic equation (degree three) in terms of radicals? What about higher degrees? This was a prominent question in Mathematics for hundreds of years until the beginning of the 1800's when the Norwegian mathematician Niels Abel proved that this was impossible for a general equation of degree five (quintic equations). But the real breakthrough came about the same time when the French mathematician Evariste Galois created a general theory that explains this phenomenon. Galois' ideas led to the development of two beautiful branches of mathematics in algebra (group theory) and number theory (Galois theory, algebraic number theory) which are fundamental parts of modern Mathematics.

This session is suitable for anyone currently studying Mathematics and/or Further Maths who is interested in studying it at university.

Thursday 24th

HISTORY: Global Travellers In The Premodern World

This session will look at the experience of travellers in the premodern period, and the dangers and opportunities they faced. Despite modern-day assumptions, people in the medieval period could be very mobile. Many journeyed far from their homes - on pilgrimage, for trade and study, or simply out of a desire to learn more about the world. They have left a rich travel literature, including accounts of calamitous shipwrecks, disagreements with expensive translators and untrustworthy guides, and reports of their amazement at unbelievable sight. Students will have the chance to read and examine accounts from some of these travellers, analyse medieval maps, and discuss what the surviving sources might reveal about how premodern people understood the globe.

This session is for anyone interested in studying History or a related subject at university.

GERMAN: Poetry Without Words - The Creative Magic of Language

How does poetry work? What is the relationship between language, form, and sound within a poem? And how do these elements create humour? By looking at Ernst Jandl's experimental lyric, we will discuss these questions and explore the creativity of his unique style. There will also be time for Q&A.

There is no need for any knowledge of German (although helpful) but the session is open for everyone interested in a degree in Modern Languages, including Joint Schools and/or Modern Languages with a Beginner's language.

Friday 25th

MEDICINE: Clinical Diagnostic Approaches to Pain

How can we use how someone describes a pain to tell us more about what might be wrong? Medical problems often manifest with a pain, and we can tell a lot about what might be wrong by asking detailed questions about the pain. In this session, we will explore how doctors ask questions about pain. We will then talk through what might be wrong, drawing on background knowledge of anatomy and physiology. We call this process 'history-taking to reach a diagnosis', and the same principle can be applied to all aspects of medicine, which medical students learn during the clinical part of the course.

This will be of interest to anyone thinking about studying Medicine, Biomedical Sciences, Human Sciences or a related subject at university. No prior knowledge of Medicine is required.

LAW: Is the Coronavirus Act Null and Void?

The Coronavirus Act 2020 has been criticised from many quarters and has been amended many times. In this session, we will analyse the claim expressed by some protestors that the legislation is 'null and void'. When you study law at university, you must ask some fundamental questions about what law is. Is the Coronavirus Act null and void, as the protestors say? We will think about how to assess their argument. We will ask: What could make a law null and void? What counts as law in the first place? Does the fact that some people disagree with the law make it null and void?

This session is suitable for anyone interested in studying Law at university. You do not need any previous experience in studying Law.