



WYCHWOOD

SCHOOL • OXFORD

STEAM: 'Cracking the Code'



STEAM: 'Cracking the Code'

Dates: 14th - 21st July 2024

Age: 13-15 years

Course size: 24 (split into two groups)

English Level: B2+

Package fee: £1495

Package includes:

- all meals
- accommodation
- supervision
- course programme
- trips
- excursions
- activities

Accommodation: Boarding school accommodation

What you can expect:

- **Gain hands on practical experience in the lab** with interactive lessons with Oxford University qualified tutor.
- **Small class sizes** for individual attention.
- **Make lasting friendships** with students from all over the world, creating memories that will last a lifetime.
- **Immerse yourself in British Culture** with exciting excursions to famous British landmarks.
- **Experience the warmth and hospitality** of our welcoming team, ensuring you feel right at home.



Course Overview

Learn to think like an **Oxford Scientist!**

This programme will enable you to think differently. You will move beyond the school curriculum using science and mathematical skills in creative ways to solve problems. By learning new skills in **science, technology, engineering, art** and **mathematics** you will be able to work in a team to **crack codes**. You will learn from expert teachers whilst collaborating with other students on the course.

Each day during the week is broadly split into three sections – one **laboratory** based practical session where you will develop your laboratory skills, one **mathematical** session where you will explore the theme mathematically, and one **creative** session where you will produce artwork inspired by the key scientific and mathematical ideas you have encountered.

About the course:

- **Discover the world of cryptography** and explore ciphers and codes.
- **Understand how to use a range of analytical techniques** to discover the identity of unknowns.
- **Solve a mystery** through teamwork.
- **Learn how to create a stenographic image** (an image that conceals a hidden message or picture).

Programme Tutors: Abigail Stacey and Andrew Stacey

Abigail is the Academic Deputy Head at Wychwood School, Oxford and has worked for many years teaching science both in the UK and overseas in Norway and the US. She has an honours degree in Chemistry from the University of Oxford and a Master's Degree in Education from Oxford Brookes University where her thesis explored academic buoyancy and students' ability to persist with their learning when things get difficult.

Andrew is the Head of Mathematics at Oxford High School. He has a Master of Mathematics degree from the University of Oxford and a Ph.D. from the University of Warwick. As a teacher, his goal is to enable his students to understand the richness of mathematics, and to experience its depth and beauty for themselves.



Accommodation

This programme offers you the opportunity to spend time as a boarder in a traditional British boarding school in the heart of Oxford. Staying at Wychwood School is a wonderful experience.

We provide a secure, safe and happy community where students can learn effectively and enjoy relaxed social times with their friends. Our wonderful location enables our students to make the most of Oxford in the form of evening excursions.

Our characterful, cosy, and traditional dormitory rooms are configured in 1- 4 beds. Single rooms will be allocated to older students.

Our caring and supportive house parents make sure that students have a safe and enjoyable stay. Our house parents and staff will be on hand to attend to medical needs when required.

Airport Transfers

We can arrange individual and group transfers. Please enquire upon booking.

Alternatively, we are well connected by public transport to the major London airports.

Please take a look at the most recent [timetables and routes](#).



Excursions

- **Bath:** Tour of this stunningly beautiful, UNESCO world heritage site city. Tour will include visit to the Roman Baths and Royal Crescent.
- **Walking Tour of Oxford:** explore the spires of Oxford, including the iconic Radcliffe Camera, the Sheldonian Theatre, The University Church of St. Mary's, the Bridge of Sighs and Bodleian library.
- **Harry Potter Studios:** Explore the magic behind the making of Harry Potter at Warner Bros. Studio London, stepping onto iconic sets, discovering filmmaking secrets, and encountering enchanting creatures. **This trip is on a Sunday for students staying for two weeks or more.**

Activities

In the afternoons and evenings, you will have the chance to socialise with other students and take part in fun activities. Evening activities will be organised depending on student interest and may include the following:

- Rounders tournament
- Capture the Flag
- 5 a side football
- Basketball
- Just Dance
- Talent Show
- Arts and Crafts
- Karaoke
- Summer Barbeque
- Welcome/Farewell Party



Sample Timetable

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast	Arrival Day	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Full Day Excursion to Bath	Departure Day Or Excursion to Harry Potter if combining courses and staying for another week.
Morning 1		Science 1: Test Tube Analysis	Maths 2: Cracking Ciphers	Science 3: Density and Resistance	Maths 4: Enigma - building and testing enigma machines	Maths 5: Can you solve the mystery?		
Break		Breaktime	Break time	Break time	Break time	Break time		
Morning 2		Maths 1: Constructing Ciphers and Sending Messages	Science 2: Titrations	Maths 3: Frequency Analysis - using this mathematical technique to crack substitution ciphers	Science 4: Chromatography - investigating the components in a mixture by experiment	Can you solve the mystery?		
Lunch		Lunch	Lunch	Lunch	Lunch	Lunch		
Afternoon		Art 1: Where's wally? - creating a piece of artwork with a series of hidden figures	Art 2: Magic Eye - creating a piece of magic eye art	Art 3: Create a Stenographic Image	Art 4: Nanograms - reconstruction of a piece of artwork from partial information and logic	Conclusions from the evidence room		
Dinner		Dinner	Dinner	Dinner	Dinner	Diner		
Evening		Welcome Party	Games evening: Football, Basketball, Table Tennis, Board Games etc.	Arts and Crafts	Oxford Walking Tour and Treasure Hunt	Summer Barbeque and Farewell Party		

Staying for longer?

Like all our programmes, our STEAM: 'cracking the code' programme can be combined with other programmes to make a 2, 3 or 4 week stay.

If you are interested in further developing your skills in science, we would recommend combining with the **Introduction to Practical Science** programme or **STEAM: 'Symmetry'** programme.

If you are looking to improve your English and experience British culture, we would recommend combining with the **British Culture and Language Programme**.

It is also possible to combine with our **Rugby** or **World of Football** programme if something more sporting takes your fancy.

Please see our Programmes page for more information.





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