Studying Computer Science at St Anne's College

Computer Science at Oxford concentrates on bridging theory and practice, including a wide variety of hardware and software technologies and their applications. It is possible to take some of these courses as a Visiting Student. Visiting Students will need to attend the lectures and practical sessions for the courses in the CS Department, and these will be supplemented with tutorials (1-3 students) and/or small group classes (up to 10 students) or some combination of all of these.

In tutorials you will discuss ideas in depth with an experienced computer scientist, usually with just one or two other students. You will be expected to spend a considerable amount of time developing your own understanding of the topics covered in lectures, answering questions designed to check your understanding, and preparing for tutorials, practical sessions and small classes.

Some courses will be accessible to students with little formal educational background in computer science, whereas others require prior formal educational experience. ***It should be noted that all CS courses at Oxford require a very high level of mathematical ability as a prerequisite***. Some previous experience with programming is also helpful. It is possible to combine CS courses with those in other subjects available to Visiting Students, so long as appropriate ability in those other subject areas are demonstrated as part of the application.

Recommended courses

The following courses are recommended for Visiting Students wishing to study computer science. To take the best advantage of computer science teaching at Oxford it is recommended that you study for the full academic year, as there is greater course selection when including study during Michaelmas term. You are also welcome to study for Michaelmas term only or Hilary and Trinity term. However depending on your background in computer science you may need to combine your study with another subject, for example philosophy or maths, to ensure a full course load.

The following is a list of courses that should be **accessible to students with little formal educational background in CS**. It should be noted, however, that all courses require a strong mathematics background.

Michaelmas term:
Functional Programming
Discrete Mathematics

Hilary term and Trinity term:
Design and Analysis of Algorithms
Digital Systems
Imperative Programming I,II,III
Introduction to Formal Proof

The following courses are **more advanced and require some formal education in CS** as well as **very strong mathematical ability**:

- Models of Computation
- Concurrent Programming
- Logic and Proof

The following courses are usually taught through classes in the CS Department and all rely on some other elements of the core course, so enrolment in these options would be dependent on **demonstrating the correct level of previous experience in supporting areas of Computer Science**.

Michaelmas term:
Compilers
Computer Security
Computer-Aided Formal Vertification
Databases
Geometric Modelling
Principles of Programming Languages

Hilary term:
Computer Architecture
Computational Complexity
Computer Graphics
Computational Learning Theory
Knowledge Representation and Reasoning
Lambda Calculus and Types

Trinity Term:
Concurrency
Computer Networks

There is a full list of courses on the Computer Science Department website, including descriptions for the above courses. If you see courses there that are of interest to you and not contained on this guidance sheet please email visiting.students@st-annes.ox.ac.uk to check if there is availability before you submit your application.