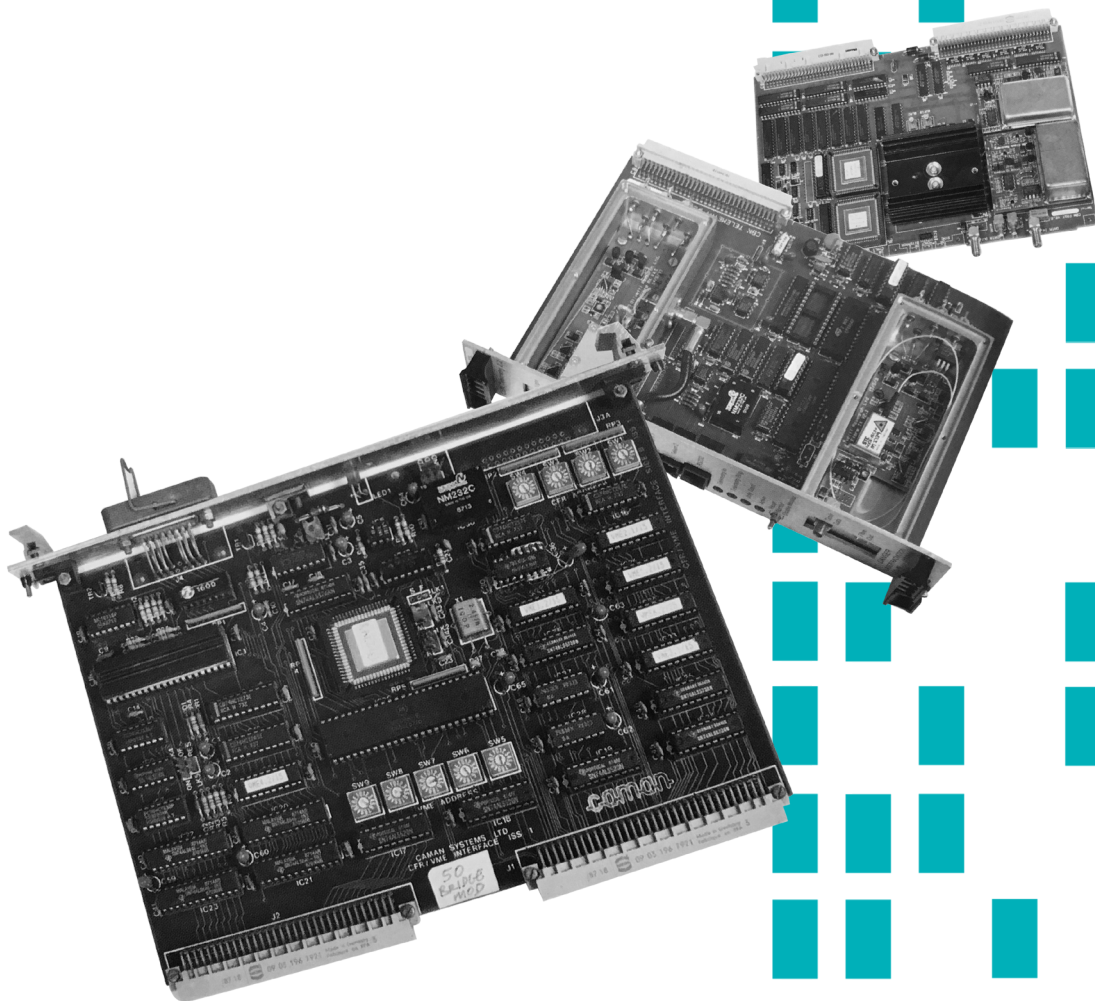


**Department of Computer  
Science and Technology**

# **Computer Science Tripos**

**An Introduction to Studying in Cambridge**



# Why Computer Science at Cambridge?

Computer science is a fast-moving, interdisciplinary field that brings together many subjects, including mathematics, engineering, psychology and linguistics. Additionally the social sciences find application in security and human-computer interaction. Computer science has helped to shape the modern world, and our course provides you with the skills to create the future.

## Employment prospects

Computer science graduates from Cambridge are highly sought after by employers. We aim to equip you with transferable skills so that you have the widest possible range of options and remain employable even when technology changes.

After graduation, all of our students find appropriate employment or proceed to further research in computer science. About half are directly employed by computing firms and a further fifth continue to academic research. The remaining students either set up their own companies, or find graduate jobs in other disciplines.

## More than just a degree

The city of Cambridge combines a world-class university with a historic market town, making it a vibrant city in which to study. Your college will be your home while in Cambridge, and each offers a distinctive community. There are ample opportunities to become involved in activities beyond your studies including the arts and sport at all levels. You will find that there are also a range of social events, helping you to meet a range of your fellow students.

## Did you know?

The University has an excellent academic reputation, retaining the top position in the latest Guardian, Times and Complete University guides. We also score highly for student satisfaction.

You are taught by those leading current research in computer science, and have the opportunity to work with the latest technology during the course. Lectures are supplemented with supervisions in small groups to discuss your work and help your understanding.

The Computer Laboratory enjoys strong links with local high-tech companies. Several of these support our annual careers' fair where many graduates find employment, and there are many opportunities for summer internships during the course. You can often stay in college over the summer at a reduced rate.

We host a range of events connected with the department's active research programme, such as the weekly seminars given by academic staff and distinguished visiting lecturers.

The Computer Laboratory houses facilities to support your learning, including the Intel Lab, supervision rooms and social areas. These are backed up with an extensive range of facilities for academic work and recreation within the University.

We aim to equip you with transferable skills so that you have the widest possible range of options and—

# Course structure

Our course is designed to reflect the nature of modern computer science, giving you a thorough grounding in core topics, while allowing you to develop those areas which interest you most. The example pathways (available separately) show how the course has inspired a range of typical students.

## First year (Part IA)

All students enter the Computer Science Tripos by taking the same courses in the first year. You will study a range of computer science courses covering the foundations of the subject, along with the mathematics course from the Natural Sciences tripos:

Computer Science 75%  
Comprising the first 3 papers

Mathematics 25%  
NST Maths paper

This leads naturally to the second.....

.....and third years of the Computer Science Tripos.

Additionally a range of newly introduced courses show the applications of computer science, leading into a broad selection of modern topics thereafter:

## Second year (Part IB)

In the second year, Part IB, you continue to study computer science, with a range of courses covering the whole subject in the areas of theory, systems, programming and applications. You also work on a group project reflecting current industrial practice, giving you the opportunity to work with leading-edge technology, and meet people from local industry.

A selection of current Part IB courses:

**Theory** —Including:  
Logic, Complexity, Semantics,  
Mathematical methods

**Systems**—Including:  
Hardware, Concurrency  
and Networks

**Programming**—Including:  
C and C++, Java, Prolog,  
Compiler Design, Concepts  
in Programming Languages

**Applications**—Incl:  
Data Science, AI, Natural  
Language Processing,  
Human-Computer Interaction

## Third year (Part II)

In the third year there is a wide range of optional courses to choose from. You are entirely free to concentrate on the topics of your choice, such as computer architecture, applications (including bioinformatics and natural language processing), or theory. New courses inspired by current research interests include topics such as cloud computing, data science, machine learning and robotics. You will also work on a substantial individual project, again based around current research.

## Fourth year (Part III)

Those students achieving a good mark in their third year exams can optionally continue to the fourth year (you don't need to decide at the time of application). Those graduating after completing the fourth year will be awarded the M.Eng. degree in addition to the usual B.A. The fourth year is aimed at students considering a career in research and gives you the opportunity to engage with topical and advanced issues in computer science.

## Admissions

Academic standards are high. For those taking A-Levels, the standard offer required is two A\* and one A grade. A-Level mathematics is essential; further mathematics is highly desirable. Physical sciences and computer science are also highly valued. Information about the entry requirements for other qualifications is available at: <http://www.undergraduate.study.cam.ac.uk/applying/entrance-requirements>

The admissions process is handled by the colleges, and most applicants specify a college at the time of submitting their UCAS form. 'Open' applications, where a college is assigned, are also supported. Choosing a college is a personal decision, and you should consider a range of factors such as the admissions criteria (these can vary slightly), and the facilities that individual colleges can offer. General information on admissions and advice on choosing a college can be found at:

<http://www.undergraduate.study.cam.ac.uk>

UCAS applications for Cambridge are submitted in mid-October, which is earlier than at most universities. Part of the application assessment process is the Test of Mathematics for University Admission (TUMA) which you would take at your school late October or early November. This tests your Mathematical thinking and reasoning and is used alongside your application information to select applicants for interview. The TMUA is run by Cambridge Assessment Admissions Testing, who provide lots of information including fees and preparation guidelines at :

<https://www.admissionstesting.org/for-test-takers/test-of-mathematics-for-university-admission/about-the-test-of-mathematics-for-university-admission/>

An additional requirement for a handful of colleges is to sit the Computer Science Admissions Test (CSAT) as well as the TUMA. The CSAT is intended to give you an additional chance to show us your strength.

Choosing a college is a personal decision, and you should consider a range of factors such as—

## Admission selection

If selected, you will be invited to an interview day, typically in the first three weeks of December. The exact interview process varies by college but normally includes two face to face interviews; in times of social distancing the college will indicate to you their preferred approach. The purpose of these interviews is to explore your academic potential, motivation, and suitability for computer science. As such the focus is on problem solving skills, ability to assimilate new ideas, and analytical reasoning. At some, but not all, colleges you will sit an additional written assessment on the interview day. To find out the interview details for a particular college, please contact their admissions office directly.

Admissions decisions are made based on academic criteria only, and colleges send out offers in early January.

For more information on the undergraduate course, and on applying please visit:

<http://www.cst.cam.ac.uk/admissions/>

You can contact us at: [teaching-admin@cst.cam.ac.uk](mailto:teaching-admin@cst.cam.ac.uk)

