



Computer Science Information Sheet for entry in 2019

Computer Science is about understanding computer systems and networks at a deep level. Computers and the programs they run are among the most complex products ever created; designing and using them effectively presents immense challenges. Facing these challenges is the aim of Computer Science as a practical discipline, and this leads to some fundamental questions:

- How can we capture in a precise way what we want a computer system to do?
- Can we mathematically prove that a computer system does what we want it to?
- How can computers help us to model and investigate complex systems like the Earth's climate, financial systems or our own bodies?
- What are the limits to computing? Will quantum computers extend those limits?

The theories that are now emerging to answer these kinds of questions can be immediately applied to design new computers, programs, networks and systems that are transforming science, business, culture and all other aspects of life.

Computer Science can be studied for three years (BA) or four years (Master of Computer Science). The fourth year allows the study of advanced topics and an in-depth research project.

Students do not need to choose between the three-year or four-year option when applying to the course; all students apply for a four-year course, and then decide at the start of the third year whether they wish to continue to the fourth year (which is subject to achieving a 2:1 at the end of the third year).

The course concentrates on creating links between theory and practice. It covers a wide variety of software and hardware technologies and their applications. We are looking for students with a real flair for mathematics, which you will develop into skills that can be used both for reasoning rigorously about the behaviour of programs and computer systems, and for applications such as scientific computing. You will also gain practical problem-solving and program design skills; the majority of subjects within the course are linked with practical work in our well-equipped laboratory.

A typical week

During the first part of the course, your work is divided between lectures (about ten a week), tutorials (about two a week) and practical classes (about two sessions a week).

In tutorials you 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. As the course progresses, you will also begin to work in small classes (up to ten people) on more specialised topics. In the second year you will take part in a group design practical, many of which are sponsored by industry. In years three and four about a third of your time is spent working on your chosen individual project. There may be up to 100 students attending any given lecture.

Most tutorials, classes, and lectures are delivered by staff who are tutors in their subject. Many are world-leading experts with years of experience in teaching and research. Some teaching may also be delivered by postdoctoral researchers or postgraduate students who are studying at doctorate level. To find out more about how our teaching year is structured, visit our [Academic Year](#) page.



Course structure

1st year	
<p>Courses Core courses:</p> <ul style="list-style-type: none"> • Continuous mathematics • Design and analysis of algorithms • Digital systems • Discrete mathematics • Functional programming • Imperative programming • Introduction to formal proof • Linear algebra • Probability 	<p>Assessment Four exam papers</p>
2nd year	
<p>Courses Core courses (50%):</p> <ul style="list-style-type: none"> • Algorithms • Compilers • Concurrent programming • Models of computation <p>Current options (50%) include:</p> <ul style="list-style-type: none"> • Computer architecture • Computer graphics • Computer networks • Databases • Intelligent systems • Logic and proof 	<p>Assessment Four exam papers</p>
3rd year	
<p>Courses Current options (67%) include:</p> <ul style="list-style-type: none"> • Computational complexity • Machine learning • Computer security • Computer-aided formal verification • Geometric modelling • Knowledge representation and reasoning • Lambda calculus and types • Principles of programming languages <p>Project work (33%)</p>	<p>Assessment Ten exam papers plus project report</p>

4th year

Courses

Current options (62%) include:

- Automata, logic and games
- Advanced security
- Categories, proofs and processes
- Computational game theory
- Computational learning theory
- Computer animation
- Concurrent algorithms and data structures
- Database systems implementation
- Probabilistic model checking
- Probability and computing
- Quantum computer science
- Requirements

Project work (38%)

*The courses listed above are illustrative and may change.
A full list of current options is available on the [Computer Science website](#).*

Assessment

Five take-home exams or written papers plus project report

The University will seek to deliver each course in accordance with the descriptions set out above. However, there may be situations in which it is desirable or necessary for the University to make changes in course provision, either before or after registration. For further information, please see the University's Terms and Conditions.

Fees

These annual fees are for full-time students who begin this undergraduate course here in 2019.

Fee status	Annual Course fees
Home/EU	£9,250
Islands (Channel Islands & Isle of Man)	£9,250
Overseas	£34,678

Information about how much fees and other costs may increase is set out in the University's Terms and Conditions.

Additional Fees and Charges Information for Computer Science

There are no compulsory costs for this course beyond the fees shown above and your living costs.

Living costs

Your living costs will vary significantly dependent on your lifestyle. These are estimated to be between £1,058 and £1,643 per month in 2019-20. Each year of an undergraduate course usually consists of three terms of eight weeks each but you may need to be in Oxford for longer. As a guide you may wish to budget over a nine-month period to ensure you also have sufficient funds during the holidays to meet essential costs.

	Per month		Total for 9 months	
	Lower range	Upper range	Lower range	Upper range
Food	£265	£371	£2,387	£3,342
Accommodation (including utilities)	£566	£739	£5,093	£6,655
Personal items	£122	£271	£1,098	£2,435
Social activities	£42	£126	£380	£1,138
Study costs	£40	£88	£359	£788
Other	£23	£48	£208	£432
Total	£1,058	£1,643	£9,525	£14,790

In order to provide these likely living costs, the University and the Oxford University Students' Union conducted a living costs survey to complement existing student expenditure data from a variety of sources including the UK government's Student Income and Expenditure Survey and the National Union of Students (NUS). The likely lower and upper ranges above are based on a single student with no dependants living in college accommodation (including utility bills) and are provided for information only. When planning your finances for future years of study at Oxford beyond 2019-20, you should allow for an estimated increase in living expenses of 3% each year.