Computer Science and Philosophy Information Sheet for entry in 2019

Artificial intelligence (AI), logic, robotics, virtual reality: fascinating areas where Computer Science and Philosophy meet. There are many others, since the two disciplines share a broad focus on the representation of information and rational inference, embracing common interests in algorithms, cognition, intelligence, language, models, proof and verification.

Computer scientists need to be able to reflect critically and philosophically about these, as they push forward into novel domains. Philosophers need to understand a world increasingly shaped by technology, in which a whole new range of enquiry has opened up, from the philosophy of AI, to the ethics of privacy and intellectual property. Some of the greatest thinkers of the past – including Aristotle, Hobbes and Turing – dreamed of automating reasoning and what this might achieve; the computer has now made it a reality, providing a wonderful tool for extending our speculation and understanding.

The study of Philosophy develops analytical, critical and logical rigour, and the ability to think through the consequences of novel ideas and speculations. It stretches the mind by considering a wide range of thought on subjects as fundamental as the limits of knowledge, the nature of reality and our place in it, and the basis of morality. Computer Science is about understanding computer systems 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.

Both subjects are intellectually exciting and creative. The degree combines analytical and technical knowledge with rhetorical and literary skills, and the chance to study within two internationally acclaimed academic departments.

Computer Science and Philosophy can be studied for three years (BA) or four years (Master of Computer Science and Philosophy). Students do not need to choose between the three-year or four-year option when applying: 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 first year covers core material in both subjects, including a bridging course studying Turing's pioneering work on computability and artificial intelligence. Later years include a wide range of options, with an emphasis on courses near the interface between the two subjects. The fourth year allows the study of advanced topics and an in-depth research project.

A typical week

For the first two years, your work is divided between lectures (about ten a week), tutorials in your college (two or three a week) and Computer Science practical classes (about one session a week). In the second year you will take part in a Computer Science group design practical, many of which are sponsored by industry. In your third and fourth years the Philosophy courses continue similarly, but most Computer Science courses are run as classes in the department rather than tutorials.

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	
Courses Computer Science: • Functional programming • Design and analysis of algorithms • Imperative programming • Discrete mathematics • Probability Philosophy: • General philosophy • Elements of deductive logic • Turing on computability and intelligence	**Assessment** Five written papers
2nd year	
Courses Computer Science core courses (25%): • Models of computation • Algorithms Computer Science options (25%): Current options include: • Compilers • Concurrent programming • Databases • Intelligent systems Philosophy (50%): Current options include: • Knowledge and reality • Early modern philosophy • Philosophy of science • Philosophy of mind • Ethics	**Assessment** Two Computer Science papers
3rd year	
Courses Computer Science (25–75%): Current options include: • Computational complexity • Machine learning • Computer-aided formal verification • Computers in society • Knowledge representation and reasoning Philosophy (25–75%): Current options include:	**Assessment** Between nine and eleven three-hour written papers, including at least two in Computer Science and at least three in Philosophy

• Philosophical logic • Philosophy of cognitive science • Philosophy of mathematics • Philosophy of logic and language and many others	
4th year	
Courses Computer Science: Current advanced options include: • Advanced security • Automata, logic and games • Computational game theory • Computational learning theory • Concurrent algorithms and data structures • Quantum Computer Science • Optional Computer Science project Philosophy: • Advanced options in Philosophy • Optional Philosophy thesis *The courses listed above are illustrative and may change. A full list of current options is available on the Computer Science website.*	**Assessment** Computer Science: written paper or take-home exam; Philosophy: three-hour written paper and 5,000-word essay

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 and Philosophy
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.