

Computer Science and Philosophy Information Sheet for entry in 2018

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). Everyone applies for the four-year course. Exit points are not decided until 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 weekly timetable

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 an industry-sponsored Computer Science group design practical. 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.

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
- Object-oriented programming

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:

- Philosophical logic
- Philosophy of cognitive science
- Philosophy of mathematics
- Philosophy of logic and language and many others

Assessment

9–11 three-hour written papers, including at least two in Computer Science and at least three in Philosophy

4th year

Courses

Computer Science:

Current advanced options include:

- Advanced security
- Automata, logic and games
- Computational game theory
- Concurrent algorithms and data structures
- Computational Learning Theory
- Optional Computer Science project
- Quantum Computer Science

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

Oxford University is committed to recruiting the best and brightest students from all backgrounds. We offer a generous package of financial support to Home/EU students from lower-income households. (UK nationals living in the UK are usually Home students.)

These annual fees are for full-time students who begin this undergraduate course here in 2018.

Fee Status	Tuition fee	College fee	Total annual fees
Home/EU	£9,250	£0	£9,250
Islands (Channel Islands & Isle of Man)	£9,250	£0	£9,250
Overseas	£23,885	£7,570	£31,455

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 £1,014 and £1,556 per month in 2018-19. Undergraduate courses usually consist of three terms of eight weeks each, but 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.

Living costs breakdown

	Per month		Total for 9 months	
	Lower range	Upper range	Lower range	Upper range
Food	£258	£361	£2,318	£3,245
Accommodation (including utilities)	£536	£677	£4,824	£6,093
Personal items	£118	£263	£1,066	£2,364
Social activities	£41	£123	£369	£1,105
Study costs	£39	£85	£348	£765
Other	£22	£47	£202	£419
Total	£1,014	£1,556	£9,127	£13,991

When planning your finances for future years of study at Oxford beyond 2018-19, you should allow for an estimated increase in living expenses of 3% each year.

10 November 2017