



Course Information Sheet for entry in 2019-20

MSc in Mathematical and Computational Finance

About the course

The course provides you with a strong mathematical background with the skills necessary to apply your expertise to the solution of problems. You will develop skills to formulate mathematical problems that are based on the needs of the financial industry. You will carry out relevant mathematical and financial analysis, develop and implement appropriate tools to present and interpret model results.

The course lays the foundation for further research in academia or for a career as a quantitative analyst in a financial or other institution.

You will take four introductory courses in the first week. The introductory courses cover partial differential equations, probability and statistics, financial markets and Python

The first term focuses on compulsory core material, offering 80 hours of lectures and 40 hours of classes/practical. The core courses are as follows:

- Stochastic Calculus
- Financial Derivatives
- Numerical Methods I - Monte-Carlo
- Numerical Methods I - Finite Differences
- Statistics and Financial Data Analysis
- Financial Programming with C++ 1

The second term will be a combination of core material, offering 40 hours of lectures and 20 hours of classes and optional material. Students are recommended to take at least five options each offering eight hours of lectures and four hours of classes/practical.

The core courses are as follows:

- Numerical Methods 2
- Market and Credit Risk
- Optimisation
- Introduction to Stochastic Control
- Fixed Income

The optional courses are as follows:

- Exotic Derivatives
- Stochastic Volatility
- Advanced Fixed Income
- Asset Pricing and Inefficiency of Markets
- Market Microstructure and Algorithmic Trading
- Machine Learning
- Advanced Numerics

The third term is mainly dedicated to a dissertation project which is to be written on a topic chosen in consultation with your supervisor.

Financial Computing with C++ 2 (24 hours of lectures and practical classes in total), is held shortly after the third term.

The examination will consist of the following elements:

- three written examinations and one take-home examination assessing the core material in the first and second terms
- one written examination assessing optional material in the second term
- one take-home project assessing one of the two optional courses in the second term
- two practical examinations assessing two courses in financial computing with C++.

Changes to courses

The University will seek to deliver this course in accordance with the description 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.

Expected length of course

10 months

Costs

Annual fees for entry in 2019-20

Fee status	Annual Course fees
Home/EU (including Islands)	£32,330
Overseas	£34,145

The fees shown above are the annual course fees for this course, for entry in the stated academic year.

Course fees cover your teaching as well as other academic services and facilities provided to support your studies. Unless specified in the additional information section below, course fees do not cover your accommodation, residential costs or other living costs. They also don't cover any additional costs and charges that are outlined in the additional cost information below.

Course fees are payable each year, for the duration of your fee liability (your fee liability is the length of time for which you are required to pay course fees). For courses lasting longer than one year, please be aware that fees will usually increase annually. For details, please see our guidance on likely increases to fees and charges.

Deposits

If your application is successful, you will be asked to pay a deposit against your course fees at the application stage as a condition of your offer. The deposit amount and date by which payment must be made are shown below.

Fee status	Amount of deposit	Date by which deposit must be paid
Home/EU (including Islands)	£3,078	30 days from date on the initial offer letter
Overseas	£3,078	

The department's website provides further information about deposits for this course.

Additional cost information

There are no compulsory elements of this course that entail additional costs beyond fees and living costs. However, as part of your course requirements, you may need to choose a dissertation, a project or a thesis topic. Please note that, depending on your choice of topic and the research required to complete it, you may incur additional expenses, such as travel expenses, research expenses, and field trips. You will need to meet these additional costs, although you may be able to apply for small grants from your department and/or college to help you cover some of these expenses.

Living costs

In addition to your course fees, you will need to ensure that you have adequate funds to support your living costs for the duration of your course.

The likely living costs for 2019-20 are published below. These costs are based on a single, full-time graduate student, with no dependants, living in Oxford. We provide the cost per month so you can multiply up by the number of months you expect to live in Oxford.

	Likely living costs for 1 month		Likely living costs for 9 months		Likely living costs for 12 months	
	Lower range	Upper range	Lower range	Upper range	Lower range	Upper range
Food	£265	£371	£2,387	£3,342	£3,183	£4,456
Accommodation	£566	£739	£5,093	£6,655	£6,790	£8,874
Personal items	£122	£271	£1,098	£2,435	£1,464	£3,246
Social activities	£42	£126	£380	£1,138	£506	£1,518
Study costs	£40	£88	£359	£788	£478	£1,051
Other	£23	£48	£208	£432	£277	£576
Total	£1,058	£1,643	£9,525	£14,790	£12,698	£19,721

When planning your finances for any future years of study at Oxford beyond 2019-20, you should allow for an estimated increase in living expenses of 3% each year.

More information about how these figures have been calculated is available at www.graduate.ox.ac.uk/livingcosts.