Course Information Sheet for entry in 2019-20

Mathematical Modelling of Random Systems: Analysis, Models and Algorithms (EPSRC CDT)

The Mathematical Modelling of Random Systems CDT offers a comprehensive four-year doctoral training course in stochastic analysis, probability theory, stochastic modelling, computational methods and applications arising in physics, quantitative finance, biology, healthcare and data science. It provides solid training in core skills related to probability theory, stochastic modelling, data analysis, stochastic simulation, optimal control and probabilistic algorithms.

Research topics focus on five Foundation areas:

1. Stochastic analysis: foundations and new directions
2. Stochastic partial differential equations
3. Random combinatorial structures: trees, graphs, networks, branching processes
4. Stochastic computational methods and optimal control
5. Random dynamical systems and ergodic theory

and five application areas:

6. Randomness and universal behaviour in physical systems
7. Stochastic modelling and data-driven modelling in finance
8. Mathematical modelling in biology and healthcare
9. Mathematical and algorithmic challenges in data science
10. Mean-field models and agent-based modelling

In the first year, students follow four Core courses on Foundation areas and three elective courses, and choose a main research topic and a research supervisor. This research project will then be expected to evolve into a DPhil thesis in years two to four. Progress will be assessed at approximately 15 months (transfer of status) and after 39 months (confirmation of status). These assessments involve the submission of written work and an oral examination.

Throughout the four years of the course, students will participate in various CDT activities with their cohort, including a CDT spring retreat, the annual summer school as well as regular seminars, workshops and training in transferrable skills such as communication, ethics and team-working.

The CDT has multiple industry partners in the areas of data analytics, finance and healthcare who provide funding for DPhil projects linked to their areas of activity. Candidates with an interest in industry-related research projects are encouraged to apply. Industry-funded DPhil projects provide students with the opportunity to actively engage with our industry partners through collaborative research.

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

4 years

Costs

Annual fees for entry in 2019-20

Fee status	Annual Course fees
Home/EU (including Islands)	£7,665
Overseas	£21,200

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.

Graduate students who have reached the end of their standard period of fee liability may be required to pay a termly University and/or a college continuation charge.

The University continuation charge, per term for entry in 2019-20 is £488, please be aware that this will increase annually. For part-time students, the termly charge will be half of the termly rate payable by full-time students.

If a college continuation charge applies (not applicable for non-matriculated courses) it is likely to be in the region of £100 to £400 per term. Please contact your college for more details.

Additional cost information

There are no compulsory elements of this course that entail additional costs beyond fees (or, after fee liability ends, continuation charges) and living costs. However, please note that, depending on your choice of research 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.