Course Information Sheet for entry in 2020-21
DPhil in Particle Physics

About the course

The work of this world-class sub-department is in experimental particle physics, particle astrophysics and accelerator physics. Particle physics is the study of basic constituents of matter and their interactions. This is accomplished either directly with accelerators that create the particles under study or by observing high-energy particles from outer space.

The sub-department is one of the largest in the UK and is well equipped to carry out research in a wide range of topics, from the study of new particles produced at high energy accelerators to neutrinos, dark matter and dark energy in the Universe. The sub-department's experiments are carried out at facilities around the world, in Switzerland, Japan, the USA and Canada.

You will spend half the first year on a lecture course in addition to starting your research and, if appropriate, spend your second year on-site at your experiment. Laboratories here in Oxford and experiments at overseas facilities provide access to a high-tech environment and excellent research training, directly applicable to a broad range of fields.

The world's biggest accelerator, the Large Hadron Collider (LHC) at CERN, is running and in 2012 the Higgs boson, a particle thought to give mass to all elementary particles, was discovered. The understanding of its properties is one of the main aims of the ATLAS experiment. The Oxford group is also focused on the search of new particles predicted in Supersymmetry and other beyond the Standard Model theories. Elucidation of CP violation, one of the mysteries of particle physics, is the aim of the sub-department's other LHC experiment, LHCb. Both experiments will require you to obtain and analyse data from the highest-energy machine in the world.

The sub-department is also involved in the study of neutrino oscillations and neutrino properties at the T2K experiment in Japan, MicroBooNe & DUNE in the USA, and at the Sudbury Neutrino Observatory (SNO+) in Canada.

The sub-department has participated in direct searches for dark matter for many years and studentships are now available associated to the LZ project. Recently it has begun a programme in collaboration with the sub-department of astrophysics to elucidate the nature of dark energy with the Large Synoptic Survey Telescope (LSST).

The future of particle physics relies on the development of new instruments for detecting particles and novel ideas in accelerator physics. The sub-department is heavily involved in the development of these areas. It has outstanding facilities to build the new silicon detectors needed for the luminosity upgrade of the LHC and other applications.

The sub-department is playing a major role in the ProtoDune experimental program at CERN, which is designed to test and validate the Liquid Argon Time Projection Chamber technologies for the construction of the DUNE Far Detector at the Sanford Underground Research Facility (SURF).

Furthermore, through the John Adams Institute, students can engage in a range of projects on accelerators which would be used in high energy physics, nuclear physics, as X-ray sources, and in medical applications.

Supervision

The allocation of graduate supervision for this course is the responsibility of the Department of Physics and it is not always possible to accommodate the preferences of incoming graduate students to work with a particular member of staff. Under exceptional circumstances a supervisor may be found outside the Department of Physics.

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

Mode of study	Full Time Only
Expected length	3 to 4 years

Costs

Annual fees for entry in 2020-21

Fee status	Annual Course fees
Home/EU (including Islands)	£7,970
Overseas	£26,405

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

Course fees cover your teaching as well as other academic services and facilities provided to support your studies. Unless specified in the additional cost information (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.

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 2020-21 is £508, 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 2020-21 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	£270	£385	£2,430	£3,465	£3,240	£4,620
Accommodation	£630	£760	£5,670	£6,840	£7,560	£9,120
Personal items	£130	£245	£1,170	£2,205	£1,560	£2,940
Social activities	£45	£110	£405	£990	£540	£1,320
Study costs	£40	£95	£360	£855	£480	£1,140
Other	£20	£55	£180	£495	£240	£660
Total	£1,135	£1,650	£10,215	£14,850	£13,620	£19,800

When planning your finances for any future years of study at Oxford beyond 2020-21, 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.