

# Department of Physics

## About the Department

The Department of Physics is one of the major centres for physics in the University of London. It has an international reputation for its research and excellent record of teaching, being consistently ranked near the top of the league tables. There is a diverse course range, covering all areas of the subject, including experimental, theoretical and computational physics.

## Entry requirements

The courses listed below are open to all Study Abroad, International and Erasmus students, subject to any required previous knowledge or qualifications, as stated in the course outlines below.

Each course is  $\frac{1}{2}$  unit and starts in either the Autumn Term (September) or the Spring Term (January), apart from PH4100 which is 1 unit taken over the whole year starting in September.

First year courses: There are no formal requisites for first year courses. However a good mathematical background is seen as very beneficial to students.

*The information contained in the course outlines on the following pages is correct at the time of publication but may be subject to change as part of our policy of continuous improvement and development.*



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## Course options for visiting students

**First year courses:** There are no formal pre-requisites for first year courses. However a good mathematical background is seen as very beneficial to students.

Course code	Course name	½ or 1 unit	Start date	Course description/including pre-requisites
PH1110	Mathematics for Scientists 1	½ unit	September 2019	PH1110 Course specification
PH1120	Mathematics for Scientists 2	½ unit	January 2020	PH1120 Course specification
PH1140	Scientific Skills 1	½ unit	September 2019 or January 2020	PH1140 Course specification
PH1150	Scientific Skills 2	½ unit	January 2020	PH1150 Course specification
PH1320	Classical Mechanics	½ unit	September 2019	PH1320 Course specification
PH1420	Fields and Waves	½ unit	January 2020	PH1420 Course specification
PH1620	Classical Matter	½ unit	September 2019	PH1620 Course specification
PH1920	Physics of the Universe	½ unit	January 2020	PH1920 Course specification



## Course options for visiting students

**Second year courses:** A solid foundation in Physics and Mathematics is required for year two courses, as well as the completion of a first year undergraduate mathematics/statistics course for scientists.

Course code	Course name	½ or 1 unit	Start date	Course description/including pre-requisites
PH2130	Mathematical Methods	½ unit	September 2019	PH2130 Course specification
PH2210	Quantum Mechanics	½ unit	September 2019	PH2210 Course specification
PH2310	Optics	½ unit	January 2020	PH2310 Course specification
PH2420	Electromagnetism	½ unit	September 2019	PH2420 Course specification
PH2610	Classical and Statistical Thermodynamics	½ unit	January 2020	PH2610 Course specification
PH2710	The Solid State	½ unit	January 2020	PH2710 Course specification



## Course options for visiting students

**Third year courses:** Please note that these are advanced courses, typically equal to senior year/graduate level in the USA. Advanced knowledge and extensive experience in the subject area is required for year three courses.

Course code	Course name	½ or 1 unit	Start date	Course description/including pre-requisites
PH3010	Advanced Skills	½ unit	September 2018	PH3010 Course specification
PH3040	Energy and Climate Science	½ unit	January 2020	PH3040 Course specification
PH3110	Experimental or Theoretical Project	½ unit	January 2020	PH3110 Course specification
PH3130	Advanced Classical Physics	½ unit	September 2019	PH3130 Course specification
PH3150	Further Mathematical Methods	½ unit	January 2020	PH3150 Course specification
PH3170	C++ and Object Oriented Programming	½ unit	September 2019	PH3170 Course specification
PH3210	Quantum Theory	½ unit	September 2019	PH3210 Course specification
PH3520	Particle Physics	½ unit	September 2019	PH3520 Course specification
PH3710	Metals and Semiconductors	½ unit	September 2019	PH3710 Course specification
PH3730	Superconductivity and Magnetism	½ unit	January 2020	PH3730 Course specification



## Course options for visiting students

Course code	Course name	½ or 1 unit	Start date	Course description/including pre-requisites
PH3810	Frontiers of Metrology	½ unit	January 2020	PH3810 Course specification
PH3910	General Relativity and Cosmology	½ unit	January 2020	PH3910 Course specification
PH3920	Stellar Astrophysics	½ unit	September 2019	PH3920 Course specification
PH3930	Particle Astrophysics	½ unit	January 2020	PH3930 Course specification



## Course options for visiting students

**Fourth year courses:** These are intercollegiate courses. Details for the level of knowledge for these courses can be provided on application.

Course code	Course name	½ or 1 unit	Start date	Course description/including pre-requisites
PH4100	Major Project	1 unit	September 2019	PH4100 Course specification
PH4110	Research Review	½ unit	September 2019	PH4110 Course specification
PH4130	Advanced Classical Physics	½ unit	September 2019	PH4130 Course specification
PH4150	Further Mathematical Methods	½ unit	January 2020	PH4150 Course specification
PH4170	C++ and Object Oriented Programming	½ unit	September 2019	PH4170 Course specification
PH4211	Statistical Mechanics	½ unit	January 2020	PH4211 Course specification
PH4428	Quantum Electronics of Nanostructures	½ unit	January 2020	PH4428 Course specification
PH4450	Particle Accelerator Physics	½ unit	September 2019	PH4450 Course specification
PH4475	Physics at the Nanoscale	½ unit	September 2019	PH4475 Course specification
PH4515	Statistical Data Analysis	½ unit	September 2019	PH4515 Course specification

