

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 15 UK credits and starts in either the Autumn Term (September) or the Spring Term (January).

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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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	15 or 30 UK credits	Start date	Course description/including pre-requisites
PH1110	Mathematics for Scientists 1	15 UK credits	September 2023	PH1110 Course specification
PH1120	Mathematics for Scientists 2	15 UK credits	January 2024	PH1120 Course specification
PH1320	Classical Mechanics	15 UK credits	September 2023	PH1320 Course specification
PH1420	Fields and Waves	15 UK credits	January 2024	PH1420 Course specification
PH1620	Classical Matter	15 UK credits	September 2023	PH1620 Course specification
PH1920	Physics of the Universe	15 UK credits	January 2024	PH1920 Course specification



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	15 or 30 UK credits	Start date	Course description/including pre-requisites
PH2130	Mathematical Methods	15 UK credits	September 2023	PH2130 Course specification
PH2210	Quantum Mechanics	15 UK credits	September 2023	PH2210 Course specification
PH2310	Optics	15 UK credits	January 2024	PH2310 Course specification
PH2420	Electromagnetism	15 UK credits	September 2023	PH2420 Course specification
PH2610	Classical and Statistical Thermodynamics	15 UK credits	January 2024	PH2610 Course specification
PH2710	The Solid State	15 UK credits	January 2024	PH2710 Course specification



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	15 or 30 UK credits	Start date	Course description/including pre-requisites
PH3040	Energy and Climate Science	15 UK credits	January 2024	PH3040 Course specification
PH3130	Advanced Classical Physics	15 UK credits	September 2023	PH3130 Course specification
PH3150	Further Mathematical Methods	15 UK credits	January 2024	PH3150 Course specification
PH3210	Quantum Theory	15 UK credits	September 2023	PH3210 Course specification
PH3520	Particle Physics	15 UK credits	September 2023	PH3520 Course specification
PH3710	Metals and Semiconductors	15 UK credits	January 2024	PH3710 Course specification
PH3730	Superconductivity and Magnetism	15 UK credits	January 2024	PH3730 Course specification
PH3910	General Relativity and Cosmology	15 UK credits	January 2024	PH3910 Course specification
PH3920	Stellar Astrophysics	15 UK credits	January 2023	PH3920 Course specification
PH3930	Particle Astrophysics	15 UK credits	January 2024	PH3930 Course specification



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	15 or 30 UK credits	Start date	Course description/ including pre-requisites
PH4130	Advanced Classical Physics	15 UK credits	September 2023	PH4130 Course specification
PH4150	Further Mathematical Methods	15 UK credits	January 2024	PH4150 Course specification
PH4211	Statistical Mechanics	15 UK credits	January 2024	PH4211 Course specification
PH4450	Particle Accelerator Physics	15 UK credits	September 2023	PH4450 Course specification
PH4475	Physics at the Nanoscale	15 UK credits	September 2023	PH4475 Course specification
PH4515	Statistical Data Analysis	15 UK credits	September 2023	PH4515 Course specification
PH4610	Gravitational Wave Astronomy	15 UK credits	September 2023	PH4610 Course specification

