RESTRICTIONS AND PREREQUISITES FOR MODULE CHOICE 2011-2012

Module/Unit	Calendar Type	Credits	Pre-requisites	Conditions
PHY008 Physics	Academic year	40	GCSE Science to Grade B	Foundation Year Programme
PHY104 Introduction to Astrophysics	Spring Semester	10	Students should have competence above or at least equal to AS level in Physics and Mathematics	Above, or at least AS, or equivalent, in physics and mathematics
PHY106 The Solar System	Spring Semester	10	Above, or at least AS, or equivalent in physics and mathematics	
PHY112 Introductory Mathematics for Physicists and Astronomers	Autumn Semester	20	AS and A2 Level Mathematics	
PHY116 Professional Skills in Physics and Astronomy II	Academic year	10		Restricted to students taking PHYU06 BSc Physics & Astrophysics and PHYU11 MPhys Physics & Astrophysics
PHY117 Professional Skills in Astronomy	Academic year	10		Restrictions on availability: Students taking MASU21 BSc Math & Astronomy, MASU23 MMath Maths & Astronomy
PHY118 Professional Skills in Physics	Academic year	10		Restrictions on availability: CHMU03 BSc Physical Chemistry, CHMU08 MPhys Physical Chemistry, PHYU14 BSc Physics & Philosophy, PHYU12 MPhys Physics & Maths, MASU23 BSc Maths & Physics
PHY123 The Physics of Sustainable Energy	Spring Semester	10		Only available to students taking single honours physics degrees and those not involving a second subject in year 1 (physics with study in North America, Physics with study in Australasia, Theoretical Physics).
PHY124 Supplementary Mathematics for Physicists	Academic year	10	PHY112	Only for single honours physics degrees and those not involving a second subject in year 1
PHY202 Quantum Mechanics	Autumn Semester	10	PHY101, PHY102	Cannot be taken with AMA330
PHY203 Thermal Physics	Autumn Semester	10	PHY101 PHY102	

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PHY204 Solids	Spring Semester	10	PHY202	
PHY205 Electromagnetism	Spring Semester	10	PHY101, PHY102. Vector algebra, vector calculus required.	
PHY206 Atomic Spectra and Relativity	Spring Semester	10	PHY101, PHY102	
PHY207 Numerical and Computational Physics	Spring Semester	10	PHY101, PHY102, PHY225	Restricted to students studying PHYU01, PHYU02, PHYU03, PHYU04, PHYU05, PHYU06, PHYU10, PHYU011, PHYU16, PHYU19, PHYU20, CHMU03, CHMU08.
PHY213 stellar structure and evolution	autumn	10	PHY104, PHY111,	
PHY216 Galaxies	Spring Semester	10	PHY104 (PHY111 recommended)	Restricted to students studying Astronomy and/or Physics to degree level.
PHY217 Astronomical Techniques	Autumn Semester	10		Restricted to students studying Astronomy to degree level.
PHY221 Topics In Classical Physics	Autumn Semester	10	PHY101 PHY102	
PHY225 Programming in C	Autumn Semester	10		Restrictions on availability: PHYU01, PHYU02, PHYU16, PHYU04, PHYU06, PHYU11, PHYU07, PHYU09, PHYU05, PHYU10, PHYU15, PHYU14, PHYU08, PHYU13, PHYU12, MASU23 (AMAU02), CHMU03, CHMU08
PHY226 Mathematical Methods for Physics and Astronomy	Autumn Semester	10		Physical Sciences background useful
PHY227 Optics	Spring Semester	10	PHY102	Physical Sciences background useful
PHY229 Extra-Solar Planets and Astrobiology	Spring Semester	10	PHY104 (PHY106 and PHY111 recommended)	

Module/Unit	Calendar Type	Credits	Pre-requisites	Conditions
PHY230 Experimental Physics I	Autumn Semester	10	PHY101, PHY102	
PHY231 Experimental Physics 2	Spring Semester	10	PHY230 PHY101 and PHY102	
PHY232 The Dynamic Interstellar Medium	Spring Semester	10	PHY104 and PHY111 recommended	Restricted to students studying Astronomy and/or Physics to degree level
PHY303 Nuclear Physics	Autumn Semester	10	PHY202	
PHY304 Particle Physics	Autumn Semester	10	PHY202, PHY206	
PHY305 Stellar Atmospheres	Autumn Semester	10	PHY104	Only available to students on FF35 (PHYU06), GF15 (MASU21), F3F5 (PHYU11)
PHY306 Introduction to Cosmology	Spring Semester	10	PHY111 and PHY226. PHY104 (strongly recommended)	
PHY309 Further Quantum Mechanics	Spring Semester	10	PHY202, PHY206	
PHY313 Mathematical Physics	Spring Semester	10		Restricted to students studying PHYU01, PHYU02, PHYU03, PHYU04, PHYU06, PHYU10, PHYU14, PHYU16, PHYU19, PHYU20, PHYU21, PHYU23.
PHY314 Relativity and Cosmology	Spring Semester	10	Special Relativity PHY206 or AMA122	
PHY315 Techniques of Problem Solving in Physics	Spring Semester	10		Cannot be taken with PHY307
PHY318 Concepts of Astronomy	Spring Semester	10		Restricted to students studying GF15 (MASU21), GFC5 (MASU22)
PHY319 Astronomy Project	Spring Semester	10		Restricted to students studying MASU21, MASU22, PHYU06, PHYU11

Module/Unit	Calendar Type	Credits	Pre-requisites	Conditions
PHY330 Electrons in Solids	Autumn Semester	10	PHY204	
PHY324 History of Astronomy	Autumn Semester	10	PHY111	
PHY332 Atomic and Laser Physics	Autumn Semester	10	PHY202, PHY206	
PHY333 Statistical Physics	Spring Semester	10	PHY203 or CHM303	
PHY341 Physics Level 3 Project 1	Autumn Semester	10		Restricted to students studying MASU23, PHYU01, PHYU02, PHYU04, PHYU06, PHYU11, PHYU12, PHYU14, PHYU16, PHYU22
PHY342 Physics Level 3 Project 2	Spring Semester	10		Restricted to students studying CHMU03, CHMU08, MASU23, PHYU05, PHYU06, PHYU10, PHYU11, PHYU12, PHYU14, PHYU18, PHYU19, PHYU20, PHYU21
PHY401 Cosmic Origins	Autumn Semester	20	A level maths/physics, grade C or above PHY104, PHY111 recommended	
PHY402 Cosmic Origins (Half Module)	Autumn Semester	10	A level maths/physics, grade C or above PHY104, PHY111 recommended	
PHY403 Advanced Statistical Physics	Spring Semester	10	PHY333	Restrictions on availability: PHYU02, PHYU10, PHYU12, PHYU16, PHYU23, PHYU21
PHY408 Literature Search in Physics	Autumn Semester	10		Knowledge of Physics to Level 2 and Mathematics to Level 1 (or equivalent) advisable.
PHY410 Physics of Semiconductors	Spring Semester	10	PHY204, PHY330	
PHY411 Aspects of Modern Physics (Half Module)	Spring Semester	10		Cannot be taken with PHY412

Module/Unit	Calendar Type	Credits	Pre-requisites	Conditions
PHY412 Aspects of Modern Physics (Full Module)	Spring Semester	20	PHY303, PHY304 are recommended if taking the Experimental Astroparticle Physics section	Cannot be taken PHY411
PHY435 Physics in an Enterprise Culture	Spring Semester	10		Restrictions on availability: PHYU01, PHYU02, PHYU16, PHYU04, PHYU06, PHYU11, PHYU05, PHYU10, PHYU08, PHYU19, PHYU12, MASU23, CHMU03, CHMU08
PHY436 Aspects of Modern Physics - A	Spring Semester	10	PHY411. Students taking Experimental Astro Particle Physics are advised that PHY303 and PHY304 are recommended prerequisites.	Restrictions on availability: PHYU02, PHYU10, PHYU11 only
PHY451 Research Design Study	Autumn Semester	10	PHY480	Only to be taken by students studying at La Palma at level 4
PHY456 Project Management and Presentation	Spring Semester	10		Only to be taken by students studying at La Palma at level 4
PHY461 High Energy Astrophysics	Autumn Semester	10	PHY104 recommended	
PHY466 The Development of Particle Physics	Autumn Semester	10	PHY303, PHY304	Subject to numbers
PHY469 The Physics of Soft Condensed Matter	Autumn Semester	10		Subject to numbers
PHY472 Advanced Quantum Mechanics	Autumn Semester	10	PHY309 recommended	Good theoretical ability advisable
PHY473 Working at the ING	Academic year	30		Only available to students in the fourth year of the MPhys. in Physics with Astrophysics (UCAS code: F3F5) who have been selected for the year-abroad programme on La Palma. The year-abroad programme is only available to 1-2 students per year.
PHY474 Extended Research Project in Astronomy	Academic year	60		Only available to students in the fourth year of the M.Phys in Physics with Astrophysics (UCAS code F3F5) who have been selected for the year-abroad programme on La Palma. The year abroad programme is only available to 1-2 students per year.

PHY475 Optical Properties of Solids	Autumn Semester	10	PHY332	Only available to PHYU02, PHYU10, PHYU11, PHYU12, PHYU16, PHYU19, PHYU21, PHYU23, PHYU24
PHY480 Research Project in Physics and Astronomy	Academic year	40	**Cannot be taken with:** PHY451	Restricted to final year students on MPhys or MMath programmes involving Physics or Astronomy