Programme Regulations 2021/22

Programme Titles:

Degree of Master of Physics with Honours (Physics with Astrophysics) - UCAS Code: F3FM

Degree of Master of Physics with Honours in Physics with Astrophysics with Placement Year - Code: 1558U

Notes

(i) These programme regulations should be read in conjunction with the University's Taught Programme Regulations

(ii) All optional modules are offered subject to the constraints of the timetable and to any restrictions on the number of students who may be taught on a particular module. Not all modules may be offered in all years and they are listed subject to availability.

(iii) Unless otherwise stated under 'Type', modules are not core.

(iv) A compulsory module is a module which a student is required to study.

(v) A core module is a module which a student must pass, and in which a fail mark may neither be carried nor compensated; such modules are designated by the board of studies as essential for progression to a further stage of the programme or for study in a further module.

(vi) All modules are delivered in Linear mode unless stated otherwise as Block, eLearning or distance learning.

(vii) Students are not recruited to 1558U. Rather a F3FM candidate may transfer to 1558U by the end of week 5 of Semester 2 of Stage 2, subject to the agreement of the Degree Programme Director.

1. Stage 1

All candidates shall take the following compulsory modules:

Code	Descriptive Title	Total Credits	Credits Sem 1	Credits Sem 2	Level	Type	Subject
PHY1033	Introduction to Calculus	20	20	0	4		
PHY1037	Vibrations, Waves & AC Theory & Introduction to Solid State Materials	20	10	10	4		
PHY1038	Introductory Algebra	10	10	0	4		
PHY1030	Laboratory Physics 1	20	10	10	4		
PHY1020	Dynamics	10	0	10	4		
PHY1021	Introductory Astrophysics	10	10	0	4		
PHY1025	Introductory Quantum Mechanics	10	0	10	4		
PHY1024	Introductory Electromagnetism	10	0	10	4		
PHY1029	Multivariate Calculus & Differential Equations	10	0	10	4		

2. Stage 2

All candidates shall take the following compulsory modules:

Code	Descriptive Title	Total Credits	Credits Sem 1	Credits Sem 2	Level	Type	Subject
PHY2020	Principles of Quantum Mechanics	10	10	0	5		
PHY2024	Principles of Materials & Solid State Physics	10	0	10	5		
PHY2035	Vector Calculus & Differential Equations, Transforms & Waves	20	10	10	5		
PHY2036	Thermodynamics & Statistical Mechanics	20	10	10	5		
PHY2029	Introduction to Observational Astronomy	10	0	10	5		
PHY2038	Optics & Principles of Electromagnetism	20	10	10	5		
PHY2034	Computational Methods & Professional Skills for Theoretical Physics	10	10	0	5		
PHY2033	Fluid Dynamics	10	0	10	5		
PHY2039	Scientific Computation with Python	10	10	0	5		

3. Progression

To progress to Stage 3 of the MPhys degree programme, candidates are required to obtain an average over all modules taken at Stage 2 of at least 60.

4. Stage 3

(a) All candidates shall take the following compulsory modules:

Code	Descriptive Title	Total Credits	Credits Sem 1	Credits Sem 2	Level	Type	Subject
PHY3044	Advanced Quantum Mechanics & Atoms, Molecules, Nuclei & Particles	20	10	10	6		
PHY3022	Relativity	10	10	0	6		
PHY3023	Advanced Materials & Solid State Physics	10	10	0	6		
PHY3039	Group Project	10	10	0	6		
PHY3033	Advanced Astrophysics	10	10	0	6		
PHY3043	Interstellar Medium & High Energy	10	0	10	6		
PHY3040	Stellar Structure & Evolution	10	10	0	6		
PHY3042	Cosmology	10	0	10	6		

(b) All candidates shall choose three optional modules from the following list:

Code	Descriptive Title	Total Credits	Credits Sem 1	Credits Sem 2	Level	Type	Subject
PHY3037	Photonics	10	0	10	6		
PHY3036	Partial Differential Equations & Non-Linear Waves	10	0	10	6		

CEG3707	Geohazards & Deformation of the Earth	10	0	10	6		
PHY3029	Variational Methods & Lagrangian Dynamics	10	0	10	6		
PHY3032	Advanced Electromagnetism	10	0	10	6		
PHY3041	Advanced Fluid Dynamics	10	10	0	6		
PHY3047	Instabilities	10	10	0	6		
PHY3048	Mathematical Biology	10	0	10	6		

5. Progression

To progress to Stage 4 of this degree programme, candidates are required to obtain an average over all modules taken at Stage 3 of at least 60.

6. Stage 4

(a) All candidates shall take the following compulsory modules:

Code	*Descriptive title*	*Total Credits*	*Credits Sem 1*	*Credits Sem 2*	*Level*	*Type*
PHY8032	Geophysical and Astrophysical Fluids	15	15		7	
PHY8033	Extended Project (Astrophysics)	45		45	7	Core
PHY8038	General Relativity	15		15	7	
PHY8040	Galaxies	15	15		7	
PHY8041	Spectra & Radiative Transfer	15	15		7	

(b) All candidates shall take 15 credits of optional modules normally selected from the following list:

Code	*Descriptive title*	*Total Credits*	*Credits Sem 1*	*Credits Sem 2*	*Level*	*Type*
PHY8029	Quantum Fluids	15	15		7	
PHY8031	Quantum Information and Technology	15	15		7	

With the approval of the Degree Programme Director alternative optional modules to those listed above may be selected.

9. Assessment methods

Details of the assessment pattern for each module are explained in the module outline.

10. Degree classification

For the purposes of professional accreditation, module PHY8033 is classed as core. Candidates who do not meet the requirements for the accredited award may be considered for a non-accredited exit degree.

BSc (Hons) Candidates will be assessed for the degree classification on the basis of all the modules taken at Stages 2 and 3 with the weightings of the Stages being 1:3 for Stage 2 and Stage 3 respectively.

MPhys (Hons) candidates will be assessed for the degree classification on the basis of all the modules taken at Stages 2, 3 and 4 with the weightings of the Stages being 1:3:3 for Stage 2, Stage 3 and Stage 4 respectively.