

## Programme Regulations: 2025/26

**Degree of Master of Physics with Honours with Theoretical Physics - UCAS Code: F344**

**Degree of Master of Physics with Honours with Theoretical Physics with Placement Year - Code: 1180U**

**Degree of Master of Physics with Honours in Theoretical Physics with International Study Year – Code: 1847U**

### ***Exit Awards Degree Titles:***

***Degree of Master of Physics with Honours in Science (Theoretical Physics) - code 1567U\****

***Degree of Master of Physics with Honours in Science (Theoretical Physics) with Placement Year - code 1568U\****

***Degree of Master of Physics with Honours in Science (Theoretical Physics) with International Study Year – Code: to be confirmed\****

### ***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 1180U or 1847U. Rather a F344 candidate may transfer to 1180U or 1847U by the end of week 5 of Semester 2 of Stage 3, subject to the agreement of the Degree Programme Director.*
- viii \*The Degree of Master of Physics with Honours in Science (Theoretical Physics), code 1567U, and the Degree of Master of Physics with Honours in Science (Theoretical Physics) with Placement Year, code 1568U, and the Degree of Master of Physics with Honours in Science (Theoretical Physics) with International Study Year, code: to be confirmed, are unaccredited exit awards for candidates who do not meet the accreditation requirements of the Degree of Master of Physics with Honours with Theoretical Physics, code F344, and the Degree of Master of Physics with Honours with Theoretical Physics with Placement Year, code 1180U, and the Degree of Master of Physics with Honours with Theoretical Physics with International Study Year, code 1847U.*

## 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
MSP1038	Introductory Algebra	10	10	0	4		
MSP1612	Introduction to Calculus and Differential Equations	20	20	0	4		
MSP1613	Multivariable Calculus	10	0	10	4		
MSP1804	Dynamics	10	0	10	4		
PHY1021	Introductory Astrophysics	10	10	0	4		
PHY1024	Introductory Electromagnetism	10	0	10	4		
PHY1025	Introductory Quantum Mechanics	10	0	10	4		
PHY1030	Laboratory Physics 1	20	10	10	4		
PHY1037	States of Matter, Waves and AC Theory	20	10	10	4		
PHY1999	Academic Skills and Tutoring (Physics)	0	0	0	4		

## 2. Stage 2

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

Code	Descriptive Title	Total Credits	Credits Sem 1	Credits Sem 2	Level	Type	Subject
MSP2020	Principles of Quantum Mechanics	10	0	10	5		
MSP2801	Vector Calculus	10	10	0	5		
MSP2802	Differential Equations, Transforms and Waves	10	10	0	5		
MSP2803	Fluid Dynamics	10	0	10	5		
PHY2021	Principles of Electromagnetism	10	0	10	5		
PHY2024	Principles of Materials & Solid-State Physics	10	0	10	5		
PHY2029	Introduction to Astronomy Data and Analysis Methods	10	0	10	5		
PHY2032	Optics	10	10	0	5		
PHY2034	Computational Methods & Professional Skills for Theoretical Physics	10	10	0	5		
PHY2036	Thermodynamics & Statistical Mechanics	20	10	10	5		
PHY2039	Scientific Computation with Python	10	10	0	5		

PHY2999	Academic Skills and Tutoring II (Physics)	0	0	0	5		
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(b) To progress to Stage 3 of this degree programme, candidates are required to obtain an average over all modules taken at Stage 2 of at least 60.

### 3. 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
MSP3020	Advanced Quantum Mechanics	10	10	0	6		
MSP3044	Quantum Information	10	10	0	6		
MSP3804	Relativity and Fundamental Particles	10	10	0	6		
MSP3809	Variational Methods & Lagrangian Dynamics	10	0	10	6		
PHY3023	Advanced Materials & Solid- State Physics	10	10	0	6		
PHY3024	Atoms, Molecules and Nuclei	10	0	10	6		
PHY3025	Team Project	10	10	0	6		
PHY3032	Advanced Electromagnetism	10	0	10	6		
PHY3999	Academic Skills and Tutoring III (Physics)	0	0	0	6		

(b) All candidates shall choose 40 credits of optional modules from the following list (with no more than 70 credits in any semester):

Code	Descriptive Title	Total Credits	Credits Sem 1	Credits Sem 2	Level	Type	Subject
CEG3707	Geohazards & Deformation of the Earth	10	10	0	6		
MSP2815	Mathematical Biology	10	0	10	6		
MSP3801	Methods for Differential Equations	10	10	0	6		
MSP3808	Hydrodynamic and Climatic Instabilities	10	10	0	6		
PHY3033	Advanced Astronomy	10	10	0	6		
PHY3040	Stellar Structure & Evolution	10	10	0	6		
PHY3042	Cosmology	10	0	10	6		
PHY3043	High Energy Astrophysics and Black Holes	10	0	10	6		
PHY3027	Individual Project	20	0	20	6		
MSP3803	Fluid Dynamics II	10	10	0	6		

- (c) 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.

#### 4. Year 4 (Intercalating Year)

##### (a) Careers Placement (1180U)

On completion of Stage 3 and before entering Stage 4, candidates may as part of their studies for the degree spend a year in a placement with an approved organisation. Permission to undertake a placement is subject to the approval of the Degree Programme Director. Students who are required to re-sit their Stage 3 assessment must delay the start of their placement until they have done so. Students who fail Stage 3 may not complete a placement year.

Code	Descriptive Title	Total Credits	Credits Sem 1	Credits Sem 2	Level	Type	Subject
NCL3000	Career Service Placement Year Module	120	60	60	6		

##### (b) International Study Year (1847U)

On completion of Stage 3 and before entering Stage 4, candidates may as part of their studies for the degree spend a year abroad at an appropriate exchange partner institution. Permission to undertake a year abroad is subject to the approval of the Degree Programme Director. Students who are required to re-sit their Stage 3 assessment must delay the start of their placement until they have done so. Students who fail Stage 3 may not complete a year abroad.

Code	Descriptive Title	Total Credits	Credits Sem 1	Credits Sem 2	Level	Type	Subject
ISY3000	International Study Year	120	60	60	6		

#### 5. Stage 4

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

Code	Descriptive Title	Total Credits	Credits Sem 1	Credits Sem 2	Level	Type	Subject
MSP8811	General Relativity	20	0	20	7		
MSP8812	Quantum Fluids	20	20	0	7		
PHY8055	Extended Project - MPhys Physics	60	20	40	7	Core	
PHY8056	Quantum Information and Quantum Modelling	20	20	0	7		

(b) For the purposes of professional accreditation, module PHY8046 is classed as core. Candidates who do not meet the requirements for the accredited award may be considered for a non-accredited exit degree in either:

- MPhys in Science with Honours (Theoretical Physics) - code 1567U
- MPhys in Science with Honours (Theoretical Physics) with Placement Year - code 1568U
- MPhys in Science with Honours (Theoretical Physics) with International Study Year - code to be confirmed

## **6. Assessment methods**

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

## **7. Degree classification**

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.