Programme Regulations: 2023/24

Programme Titles:
Degree of Bachelor of Science with Honours in Physics with Astrophysics - UCAS Code: F3F5
Degree of Bachelor of Science with Honours in Physics with Astrophysics with Placement Year - Code: 1557U
Degree of Bachelor of Science with Honours in Physics with Astrophysics with International Study Year – Code 1843U

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 1557U. Rather a F3F5 candidate may transfer to 1157U 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 (for Physics students	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 and Solid-State Physics	10	0	10	5		
PHY2026	Vector Calculus	10	10	0	5		
PHY2029	Introduction to Observational Astronomy	10	0	10	5		

PHY2031	Differential Equations, Transforms and Waves	10	0	10	5		
PHY2033	Fluid Dynamics	10	0	10	5		
PHY2034	Computational Methods & Professional Skills for Theoretical Physics	10	10	0	5		
PHY2036	Thermodynamics & Statistical Mechanics	20	10	10	5		
PHY2038	Optics & Principles of Electromagnetism	20	10	10	5		
PHY2039	Scientific Computation with Python	10	10	0	5		

3. Progression

To progress to Stage 3 of the BSc degree programme, candidates are required to obtain an average over all modules taken at Stage 2 of at least 40.

4. Year 3 (Intercalating Year)

(a) Careers Placement (1557U)

On completion of Stage 2 and before entering Stage 3, 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 2 assessment must delay the start of their placement until they have done so. Students who fail Stage 2 may not complete a placement year.

Code	*Descriptive title*	*Total Credits*	*Credits Sem 1*	*Credits Sem 2*	*Credits Sem 3*	*Level*	*Type*	*Mode*
NCL3000	*Career Service Placement Year Module*	*120*	*60*	*60*	*0*	*6*		

(b) International Study Year (1843U)

On completion of Stage 2 and before entering Stage 3, candidates may spend the equivalent of one academic 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 2 assessment must delay the start of their year abroad until they have done so. Students who fail Stage 2 may not complete a year abroad.

Code	*Descriptive title*	*Total Credits*	*Credits Sem 1*	*Credits Sem 2*	*Level*	*Type*	*Mode*
ISY3000	International Study Year Module	120	60	60	6		

5. 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
PHY3020	Advanced Quantum Mechanics	10	10	0	6		
PHY3022	Relativity	10	10	0	6		
PHY3023	Advanced Materials and Solid-State Physics	10	10	0	6		

PHY3024	Atoms, Molecules, and Nuclei	10	0	10	6		
PHY3025	Group Project	10	10	0	6		
PHY3033	Advanced Astronomy	10	10	0	6		
PHY3034	Theoretical Project	20	0	20	6	Core	
PHY3040	Stellar Structure & Evolution	10	10	0	6		
PHY3042	Cosmology	10	0	10	6		
PHY3043	Radiative Transfer and High Energy Astrophysics	10	0	10	6		

(b) All candidates shall choose one optional module from the following list:

Code	Descriptive Title	Total Credits	Credits Sem 1	Credits Sem 2	Level	Type	Subject
CEG3707	Geohazards & Deformation of the Earth	10	10	0	6		
PHY3029	Variational Methods & Lagrangian Dynamics	10	0	10	6		
PHY3032	Advanced Electromagnetism	10	0	10	6		
PHY3036	Partial Differential Equations	10	0	10	6		
PHY3037	Photonics	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		

(c) With the approval of the Degree Programme Director, alternative optional modules to those listed above may be selected with a total value of not more than 20 credits. In particular, modules may be selected from the following:

Code	Descriptive Title	Total Credits	Credits Sem 1	Credits Sem 2	Level	Type	Subject
NCL3007	Career Development for Final Year Students	20	10	10	6		

Note: There are limited places on the module and therefore there is no guarantee that students will be accepted

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 and 3 with the weightings of the Stages being 1:3 for Stage 2 and Stage 3 respectively.