

These programme regulations should be read in conjunction with the University's [core regulations for undergraduate programmes](#), and the [marking and classification conventions for undergraduate programmes](#).

MSci Mathematics and Physics (G430)

MSci Mathematics and Physics with Placement (G431)

1. This programme is available at Durham City, in a full-time mode of study.
2. All module selections must be timetable compatible and approved by the Director of Natural Sciences or by their nominee to ensure a credible pathway through to 120 credits of Year 4 modules.

Level 1 (Certificate)

3. Candidates shall study and be assessed in the following modules:

		Credit value
Linear Algebra I #	MATH1071	20
Calculus I #	MATH1061	20
Analysis I *	MATH1051	20
Foundations of Physics 1 #	PHYS1122	40
Discovery Skills in Physics *	PHYS1101	20

Level 2 (Diploma)

4. Candidates shall study and be assessed in:

		Credit value
Mathematical Methods II	MATH2811	20
Complex Analysis II	MATH2791	20
Foundations of Physics 2A *	PHYS2581	20
Foundations of Physics 2B	PHYS2591	20

5. **Either:** Candidates shall also study and be assessed in the following modules:

		Credit value
Methods of Mathematical Physics II	MATH2741	20
Modules from the Level 2 MPhys Physics (F301) regulations		20

Or: Candidates shall also study and be assessed in the following modules:

		Credit value
Theoretical Physics 2 *	PHYS2631	20
Modules from the Level 2 Master of Mathematics (G103) regulations		20

Level 3 (Degree)

6. Candidates shall study and be assessed in modules to the value of 60 credits from List A:

List A:		Credit value
Analysis III	MATH3011	20
Differential Geometry III	MATH3021	20
Dynamical Systems III	MATH3091	20
Fluid Mechanics III	MATH3101	20
Geometry of Mathematical Physics III	MATH3471	20
Mathematical Biology III	MATH3171	20
Mathematical Finance III	MATH3301	20
Mathematics into Schools III	MATH3481	20
Operations Research III	MATH3141	20
Partial Differential Equations III	MATH3291	20
Quantum Computing III	MATH3391	20

Solitons III	MATH3231	20
Topology III	MATH3281	20
Science Enterprise	NSCI3001	20

7. Candidates shall also study and be assessed in the following modules:

		Credit value
Foundations of Physics 3A	PHYS3621	20

8. **Either:** If the candidates studied Theoretical Physics 2 (PHYS 2631) at Level 2, they shall also study and be assessed in the following modules:

		Credit value
Theoretical Physics 3	PHYS3661	20
Modules from Level 3 MPhys Physics (F301) regulations		20

Or: If the candidates studied Methods of Mathematical Physics II (MATH 2741) at Level 2, they shall also study and be assessed in the following modules:

	Credit value
Modules from Level 3 MPhys Physics (F301) regulations, which may include NSCI 3001 Science Enterprise	40

Placement – Year 3 or Year 4

9. Candidates admitted to the MSci Mathematics and Physics (G430) can apply to transfer to the MSci Mathematics and Physics with Placement (G431). Students undertaking the MSci Mathematics and Physics with Placement (G431) will undertake an approved placement chosen in consultation with the Director of Natural Sciences or their nominee and the host partner.
10. Candidates wishing to transfer to the MSci Mathematics and Physics with Placement (G431) as their third year must:
 - a. Have successfully completed Level 1 of the MSci Mathematics and Physics (G430) and progressed to Level 2 of the Honours or BSc programme; and
 - b. During the first term of Level 2 study, the student must discuss their intention to apply with the Director of Natural Sciences or their nominee in order to be admitted to the MSci Mathematics and Physics with Placement (G431) and receive approval by the Director of Natural Sciences or their nominee; and
 - c. Secure a Placement Year opportunity or opportunities comprising at least 40 weeks of professional-level work experience, agreed with the Director of Natural Sciences or their nominee; and
 - d. Successfully complete Level 2 to be eligible to progress to Level 3 of the MSci Mathematics and Physics (G430) Honours programme.
11. Students who the Board of Examiners for Natural Sciences deem to have made satisfactory progress on the placement will continue to Level 3 of the MSci Mathematics and Physics with Placement (G431). Students who have not made satisfactory progress on the placement will not be permitted to continue on the MSci Mathematics and Physics with Placement (G431) programme, but must instead proceed to Level 3 of the MSci Mathematics and Physics (G430) programme.
12. Candidates wishing to transfer to the MSci Mathematics and Physics with Placement (G431) as their fourth year must:
 - a. Have successfully completed Level 2 of the MSci Mathematics and Physics (G430) and progressed to Level 3 of the Honours programme; and
 - b. During the first term of Level 3 study, the student must discuss their intention to apply with the Director of Natural Sciences or their nominee in order to be admitted to the MSci Mathematics and Physics with Placement (G431) and receive approval by the Director of Natural Sciences or their nominee; and
 - c. Secure a Placement Year opportunity or opportunities comprising at least 40 weeks of professional-level work experience, agreed with the Director of Natural Sciences or their nominee; and
 - d. Successfully complete Level 3 of the MSci Mathematics and Physics (G430) programme to be eligible to progress to Level 4 of the MSci Mathematics and Physics (G430) Honours programme.
 - e. register for the module “Natural Sciences Placement MSCI (NSCI 3996)”
13. Students who the Board of Examiners deem to have made satisfactory progress on the placement will continue to Level 4 of the MSci Mathematics and Physics with Placement (G431). Students who have not made

satisfactory progress on the placement will not be permitted to continue on the MSci Mathematics and Physics with Placement (G431) programme, but must instead proceed to Level 4 of the MSci Mathematics and Physics (G430) programme.

Level 4 (Degree)

14. **Either:** Candidates shall study and be assessed in the following modules:

		Credit value
Mathematics Project	MATH4072	40
Modules from the Level 4 MPhys of Physics (F301) regulations		40
40 credits from		
List B:		
Advanced Quantum Theory IV	MATH4061	20
Algebraic Topology IV	MATH4161	20
Functional Analysis and Applications IV	MATH4371	20
General Relativity IV	MATH4051	20
Riemannian Geometry IV	MATH4171	20
Statistical Mechanics IV	MATH4231	20
Superstrings IV	MATH4271	20
Topics in Applied Mathematics IV	MATH4381	20
Advanced Mathematical Biology IV	MATH4441	20
Geophysical and Astrophysical fluids IV	MATH4421	20

Or: Candidates shall study and be assessed in the following modules:

		Credit value
Project	PHYS4213	60
Modules from List B above		40
Modules from Level 4 MPhys Physics (F301) regulations		20

Assessment, progression and award

- Modules marked with the # symbol must be passed at no less than 40% in order to progress to the next level of study.
- Modules marked with the * symbol must be passed at no less than 40% in order to progress to the next level of study. Students who have not passed will not be permitted to continue on the MSci in Mathematics and Physics (G430) programme, but must instead proceed to Level 2 of the MSci Natural Sciences (FGC0) programme.