Mathematical Physics

University of Edinburgh

Venues

King's Buildings Campus

Content

The Mathematical Physics degree programme is designed to give you a thorough grounding both in the fundamental theories of physics and the mathematical concepts needed to formulate, understand and develop them.

Year 1
You will study four compulsory courses: Physics 1A, Introduction to Linear Algebra, Calculus and its Applications and Mathematics for Physics 2. You will also have the opportunity to take a further course in pure mathematics or physics.

Year 2
You will study modern physics, dynamics, fields and waves, and physics of matter. Mathematics courses will cover several variable calculus and the foundations of pure mathematics. You will be introduced to practical physics, including programming, data analysis and (optionally) experimental techniques. You will also have the freedom to choose a further specialist maths course or a course from other academic areas.

Year 3
You will study core courses in quantum mechanics, thermodynamics and statistical mechanics, electromagnetism and relativity, and lagrangian dynamics. You will also undertake further specialist mathematics and physics courses from a range available.

Year 4
In this year there are a number of compulsory courses covering quantum theory, symmetries of quantum mechanics, classical electrodynamics, Hamiltonian dynamics and statistical physics. Students also take a number of other courses from a range available.

Year 5
Your final year is largely devoted to a research project chosen from a wide range of topics. You will also complete a number of advanced-level courses including relativistic quantum field theory.

Start Date

September

Qualification

Degree

Study Method

Full time

Award Title

MPhys

UCAS Code

F325

Course Length

5 years

Faculty

College of Science and Engineering

Department

Physics and Astronomy

Entry Requirements

2027 entry requirements

Standard entry:
4 Highers at AAAA (by end of S5 preferred) including Maths and Physics plus English at National 5. Advanced Higher Maths is recommended.

Direct entry to year 2 is possible with 3 Advanced Highers at AAA including Maths and Physics plus the above.

Widening access entry:
4 Highers at AABB (by end of S6) including Maths at A and Physics plus English at National 5. Advanced Higher Maths is recommended. Highers at BBB must be achieved in one sitting S4-S6.

SCQF Level

11

Progression Routes

«ProgressionRoutes»

Combination Courses

«htmlCombinationCourse» «htmlCombinationUCASCode»

Address

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South Bridge
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City of Edinburgh
EH8 9YL

Website

www.ed.ac.uk