Theoretical Physics

University of Edinburgh

Venues

King's Buildings Campus

Content

This degree programme gives you a broad overview of Physics covering a wide range of areas in classical and quantum physics.

In the first two years, you will be studying the same core courses as Physics students, before specialising in the theoretical aspects of physics in advanced years.

Year 1
You will study compulsory courses in physics and mathematics.

Physics 1A is innovative in its use of technology and offers an interactive learning experience. Physics 1B introduces you to the fundamentals of quantum physics.

You will normally study Mathematics for Physics 1 and 2 which include mathematical and problem solving skills in the context of algebra and calculus, with increasing emphasis on physical applications. If you have an interest in more formal mathematics, these courses can be replaced by courses from the School of Mathematics.

You will be able to choose two further subjects from other academic areas.

Year 2
You will study modern physics and physics of fields and matter. Supporting mathematics courses will cover algebra, calculus, dynamics and vector calculus and you will be introduced to practical physics, including programming, data analysis and experimental techniques. Students will have the freedom to choose one or two courses from other academic areas.

Students entering the programme in Year 2 will take additional introductory courses in classical physics and mathematics.

Year 3
You will study thermodynamics, statistical mechanics, electromagnetism, optics and quantum mechanics.

We offer a supporting mathematics course covering Fourier analysis, probability and statistics, a computing course on numerical algorithms, and an introductory course to research methods.

Year 4
In this year there are compulsory courses covering relativity, nuclear and particle physics, condensed matter physics and lagrangian dynamics.

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.

Start Date

September

Qualification

Degree

Study Method

Full time

Award Title

MPhys

UCAS Code

F306

Course Length

5 years

Faculty

College of Science and Engineering

Department

Physics and Astronomy

Entry Requirements

2026 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 the above plus 3 Advanced Highers at AAA including Maths and Physics.

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.

SCQF Level

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Progression Routes

«ProgressionRoutes»

Combination Courses

«htmlCombinationCourse» «htmlCombinationUCASCode»

Address

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Website

www.ed.ac.uk