

Our expertise.

Sheffield is home to one of the biggest particle physics research groups in the UK. These researchers – your lecturers – have been involved in significant discoveries including the Higgs boson and gravitational waves.

They're involved in major international experiments, from gigantic underground neutrino studies to the search for dark matter. This means you'll be able to learn, first-hand, about some of the most exciting developments in science today.



Members of our student society, Physoc, on a trip to CERN.

Be Sheffield Made.

The information given here is based on the current academic year. There may be some changes before you start your course. For the latest information, visit our website.

www.sheffield.ac.uk/physics
www.youtube.com/sciencesheffield



Your Physics with Particle Physics course.



UCAS codes:
F372 / F373

In the first two years of your course, you'll cover the essential physics behind everything else you'll study. Lectures and lab classes are included in the same modules, so you'll run experiments to help you understand important theories even more clearly.

There are specialist particle physics modules and options on other topics in physics from the start of your degree. MPhys students spend half of their final year working in one of our leading research groups on an unanswered question in physics.

Level one.

Core modules:

- Fields and Quanta
- Frontiers in Physics I
- Mathematics for Physicists and Astronomers
- Motion and Heat

Optional modules:

- Introduction to Astrophysics
- Introduction to Electric and Electronic Circuits
- Our Evolving Universe
- Physics of Living Systems 2
- The Physics of Sustainable Energy
- The Solar System
- Frontiers in Physics II

Level two.

Core modules:

- Classical and Quantum Physics
- Detection of Fundamental Particles
- Programming in Python
- Special Relativity and Subatomic Physics

Optional modules:

- Aspects of Medical Imaging and Technology
- Astronomical Spectroscopy
- Galaxies
- Physics of Materials
- Stellar Structure and Evolution
- The Physics of Music



Level three.

Core modules:

- Atomic and Laser Physics
- Particle Physics
- Problem Solving and Advanced Skills in Physics
- Semiconductor Physics and Technology
- Solid State Physics
- Statistical Physics (optional on BSc)

Optional modules:

- Advanced Programming in Python
- Dark Matter and the Universe (core on BSc)
- History of Astronomy
- Industrial Group Project in Physics (MPhys only)
- Introduction to Cosmology
- Introduction to Soft Condensed Matter and Biological Physics
- Mathematical Physics
- Microscopy and

Spectroscopy Laboratory (MPhys only)

- Nuclear Physics (core on BSc)
- Origin of the Chemical Elements
- Physical Computing
- Physics Education and Outreach (MPhys only)
- Physics in an Enterprise Culture
- Quantum Information Laboratory (MPhys only)
- Research Project in Physics (core on BSc)

Level four (MPhys only).

Core modules:

- Advanced Particle Physics
- Research Project
- The Development of Particle Physics

Optional modules:

- Advanced Electrodynamics
- Advanced Quantum Mechanics
- Advanced Soft Condensed Matter and Biological Physics

- An Introduction to General Relativity
- Dark Matter and the Universe
- Galaxy Formation and Evolution
- History of Astronomy
- Introduction to Cosmology
- Optical Properties of Solids
- Physics in an Enterprise Culture

- Star Formation and Evolution
- The Physics of Soft Condensed Matter