Find out more: www.southampton.ac.uk/phys

UK enquiries: enquiry@southampton.ac.uk +44 (0)23 8059 9699

EU and International enquiries: international@southampton.ac.uk +44 (0)23 8059 9699



"An inspiring and friendly department, located in a fantastically serene and beautiful campus! What better place to be and enjoy studying!"

Stefani Petropoulou MPhys Physics with Astronomy, third year

Southampton

PHYSICS AND ASTRONOMY UNDERGRADUATE COURSES 2021

FOUNDING MEMBER OF THE RUSSELL GROUP

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HYSICS

EXPLORE YOUR NEW WORLD

OPEN DAYS

For the latest Open Day dates and information, please go to: www.southampton.ac.uk/sb/openday

Updates on other ways to visit us can be found at: www.southampton.ac.uk/sb/visitus



Choosing your university is about more than finding a course. It's about starting the next chapter of your life and taking another step towards becoming the person you want to be.

At Southampton we share your passion to learn and encourage your desire to explore and evolve in a friendly and vibrant community.

Our academics and diverse student community will inspire, challenge and support you. Together we can help you make your mark on the world.

Studying Physics and Astronomy is fascinating, and provides the skills and knowledge you need

to become almost anything you want to be when you graduate.

Here at Southampton, you'll learn from passionate and supportive lecturers who are working at the frontiers of physics in quantum physics, particle physics, astronomy, photonics and more.

There will be many opportunities open to you as a physics student at Southampton, from placements at CERN and Harvard to becoming part of a lively society, such as Physoc or AstroSoc.

Southampton is a place where you can truly make your journey your own.

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TAKE A TOUR

Can't wait for an Open Day? Experience Southampton through a virtual tour.

7

Find out more and explore: www.southampton.ac.uk/sb/virtualopen

*QS World University Rankings, 202 *Complete University Guide, 202





UK university

Study at prestigious global organisations including CERN

WELCOME TO PHYSICS AND ASTRONOMY

It's a pleasure to welcome you to Physics and Astronomy at Southampton and to share some of the incredible things that you can look forward to when you study here with us. Your degree will be challenging but fascinating; you'll use excellent facilities for your practical work and have unique opportunities open to you. But what makes Southampton truly special is our people.

Your teachers here at Southampton are leading on some of the world's most innovative and exciting physics research programmes, but are also down-to-earth and supportive people. We care about helping the next generation of students to become excellent physicists and creating a happy, exciting and supportive environment for learning.

You'll benefit from our close links with international research institutions, giving you the best learning opportunities whilst you're here and the best prospects when you graduate. Our flagship degrees give you the chance to spend a year at places like CERN and the Harvard-Smithsonian Center for Astrophysics. There are also opportunities to undertake a summer placement, travel to the Teide Observatory in Tenerife on a field trip or spend six months in industry.

A physics degree from Southampton opens the door to a range of career opportunities and puts you in a great position when you graduate. You might choose to go into academic research, make your mark using physics and astronomy in industry - or go into something completely different such as data science, finance, IT, business or media. Whatever you decide to go on to do, you can be confident that you'll graduate with the mathematical, analytical, computational and problem solving skills that will make you highly employable. In addition, your physics degree will indicate to employers that you are intellectually curious, insightful and not afraid of a challenge.

I hope you will choose to study with us and look forward to welcoming you.

Professor Mark Sullivan

Head of Physics and Astronomy Faculty Head of Equality, Diversity and Inclusivity

A GLOBAL UNIVERSITY



Southampton is your gateway to the world.

Explore new cultures through study abroad opportunities and international student societies, get advice from our global alumni community, and make friends with people from a multitude of backgrounds.

Our inspiring academics make a difference on every continent, and our business, government and non-government organisation partners span the globe.



SpaceX launched one of Southampton's 5D data storage crystals into space aboard Elon Musk's Falcon Heavy spacecraft. Created using photonics technology, the crystals contain the text from a series of science fiction books and are the first part of a Solar Library in orbit around the Sun.



Sai Pandian will spend the fourth year of his degree living in Boston, USA, working on a research project at the Harvard-Smithsonian Center for Astrophysics.



in Geneva for her final year. She worked as part of a research team improving the simulation of RICH detectors, which are used for particle identification, as part of the Large Hadron Collider beauty experiment.



Our researchers are working with a blind physicist in South Africa to develop a computer package that presents numerical data as sound, enabling people with vision loss to interpret astrophysical discoveries.



Our space physicists are undertaking expeditions to the Arctic to understand the mysteries of the Aurora Borealis.



@unisouthampton @AstroPhysSoton

and events at the University

Follow us for the latest news, research

EXPERIENCE YOUR NEW WORLD

I loved being part of such an international collaboration, with people from around the world often coming in to discuss ideas or give presentations. When applying for PhDs all my interviewers were interested in my project at CERN and the skills I gained there."

ALEX

Alexandra Moor

Particle Physics with a Research Year Abroad, 2019; Physics PhD, University of Camb<mark>rid</mark>ge Spend time immersed in a cutting-edge research project on one of our exciting flagship programmes. You'll join a prestigious organisation, either in the UK or abroad, working alongside leaders in the field. Your experience will look extremely impressive on your CV, enabling you to stand out from the crowd when you graduate.

Undertaking one of our flagship degrees will prepare you for whatever your future will bring. You'll grow both academically and personally, and get a taste of what your career might become.

If you're a top-performing student, you can apply to join one of our flagship programmes at the end of your second year. We carefully coordinate your MPhys degree so you get the knowledge you need in three years, and can move onto your research project in year four. You'll need to show us that you're achieving first-class results, so we know you're ready for the challenge.

Astrophysics with a Year Abroad

Spend a year at the Harvard-Smithsonian Center for Astrophysics in Boston, USA – the world's largest centre for the study of our Universe.

Astrophysics with a Year of Research

Join the Southampton Astronomy Group and work with our academics on a real, unsolved problem in astronomy.

Particle Physics with a Research Year Abroad

Become part of the international research team at CERN in Geneva, Switzerland, working at the Large Hadron Collider to investigate the building blocks of the Universe.

Physics with a Year of Experimental Research

Work alongside professional researchers in the University of Southampton's highly regarded Quantum, Light and Matter research group.

Physics with Industrial Placement

You'll join a company for six months on a paid industrial placement, applying your physics skills and knowledge to a real research and development project.

Find out more: www.southampton.ac.uk, phys/flagship

OUR PEOPLE

Make Southampton the start of your new world; our community is full of passionate people with the drive to change the world through their research and collaborations with global partners. We can help you develop the skills you need for your future.

- → Become part of a research-intensive community when our discoveries are having global impact
- Our world-leading academics will inspire and challenge you throughout your studies
- → Our graduate mentors can help you develop your skil
- → Feel welcome in your new home among a diverse mix of people and cultures

Dr Elinor Irish

One of the most rewarding aspects of Elinor's role is seeing students get so interested in a subject that they want to explore it further in their final-year project – and then go onto pursue a career in that area. She teaches some of our applied physics modules, such as Medical Physics and Applied Nuclear Physics. Her own research is on the theory of quantum optics – the interactions between light and matter at the quantum level. For Elinor, the best things about Southampton are the combination of excellent teaching and research, and the friendly and supportive atmosphere.



Professor David Smith Admissions Tutor

David has had a long career at Southampton due to its happy atmosphere and the exciting people he gets to work with. The academic staff within Physics and Astronomy are understanding new things every day and seeing students develop into professional physicists. His main teaching role is leading the third-year experimental laboratories – an optional module where students get to do a series of real research projects. In his role as Admissions Tutor, he meets students and parents at Open Days and Visit Days, answers any questions about studying at Southampton and makes decisions around admissions. His research is focused on using laser spectroscopy to study nanostructured materials.

Liz Bartlett

MPhys Astrophysics with a Year Abroad, 2009; PhD Physics, 2013;

Astronomer, European Southern Observatory Physics and Astronomy graduate Liz works as an astronomer at the European Southern Observatory in Chile. She uses the Very Large Telescope (VLT) for her work, investigating the multi-wavelength properties of some of the biggest stars known. Liz says she wouldn't be where she is now without two important experiences at Southampton: her year abroad at the Harvard-Smithsonian Center for Astrophysics, and the astronomy field trip to Tenerife.

Professor Pasquale Di Bari Director of Programmes

Pasquale is responsible for ensuring students have an excellent learning experience. He holds a feedback lesson in a core lecture every semester, to give students an opportunity to share their thoughts on the course. Based on feedback, Pasquale has recently introduced a new advanced optional module, Physics of the Early Universe, which is a unique field of study in the UK at undergraduate level. Pasquale's research interests are in physics of the early Universe, neutrino physics and physics beyond the standard model. His papers have over 3,000 citations, and he is regularly asked to give plenary talks at international conferences and seminars. He is also the author of *Cosmology and the Early Universe*, a core undergraduate textbook.

Paul Ettinger BSc Physics and Electronics, 1980; International Development Director, Caffè Nero

After graduating from Southampton, Paul went to work as an engineer in the Sahara desert, which he describes as a tremendous experience. After two years, he decided that he wanted to work in general management instead, and worked in industry for 12 years in various roles. During that time he completed an MBA, and through a friendship he made on the course he became involved in setting up Caffè Nero. The global coffee shop chain is now a household name, with over 600 stores and 4,000 members of staff.

YOUR COURSES

Choose Southampton

- → Study a high-quality degree in an internationally recognised research department
- → Module choice throughout every year of your degree enables you to choose modules that match your interests and career aspirations
- → Flagship programmes with prestigious placement opportunities at organisations including CERN and the Harvard-Smithsonian Center for Astrophysics
- → We're one of the few UK universities to teach general relativity at undergraduate level. And we're the only UK university to offer an undergraduate degree in physics with photonics.
- → Exceptional research-grade facilities including a rooftop observatory and a specialist photonics laboratory

66

We make sure there is plenty of support available for our students through their personal tutor, problem solving classes and weekly drop-in sessions with PhD students."

Dr Alberto Politi Admissions Tutor

4th

in the Russell Group for course satisfaction Guardian University Guide, 2020



Our BSc and MPhys degrees are accredited by the Institute of Physics Studying physics allows you to channel your curiosity and answer important questions about the world around us. You can learn about phenomena ranging from time dilation to the birth of stars, and study how the classical rules of behaviour change at the quantum level. You'll gain an in-depth understanding of how the Universe works, put theories to the test in the lab and develop key transferable skills.

Flexible programme structure

We offer a flexible approach to our degrees so that you can tailor your course to your interests and career aspirations. You can even choose from a range of innovative crossdisciplinary modules, in subjects such as law, business, music, languages or engineering.

Students normally take eight modules each year. These are made up of a mix of compulsory core modules, as well as optional modules, from the first year onwards. The core modules cover the essential topics required for a professional training in physics. As you progress through your degree, you'll have increasing flexibility to choose options. A typical first-year student has 20 contact hours per week.

As all our students study the same core modules in years one and two, it's possible to switch to one of our other BSc or MPhys physics degrees up to the end of the second year, provided you have taken the required optional modules.

Professionalism in teaching

Our academics pay as much care and attention to their teaching as they do to their research. We're keen to share our knowledge and enthusiasm for physics with you, and inspire the next generation of physicists.

We expect staff to achieve membership of the Higher Education Academy and take a Postgraduate Certificate in Academic Practice. Our staff take part in voluntary peer observations, so they can learn from one another and build on the feedback.

The Director of Programmes holds a course feedback session in a core lecture every semester, giving students the opportunity to give their thoughts on any aspect of their learning.

A rich learning experience

A typical week as a Physics and Astronomy student will involve much more than lectures.

Experimental labs enable you to apply your knowledge using the latest apparatus and computer-controlled equipment. Expert technicians and academic staff are on hand to support you with your experimental work. In fact, the Institute of Physics praised the high level of organisation and facilities in our undergraduate labs.

You'll attend small-group weekly tutorials and problem solving classes. There's also the opportunity to go to a weekly drop-in session, where our PhD students will answer any questions you have about your studies. At every stage of your degree you can get one-to-one tuition to help you understand any aspect of the physics in your course.

First-year modules help to develop your problem-solving skills through mini projects in which you design your own experiments from scratch. In the second, third and fourth years, you'll start to develop key transferable skills such as computing, scientific presentation and scientific writing.

Research-grade facilities

Our students benefit from excellent student resources and access to research facilities, including:

- → a rooftop observatory with two high-quality telescopes and CCD detectors
- → a specialist photonics laboratory with research-grade laser equipment
- \rightarrow a £120m Cleanroom Complex
- → a dedicated physics library and spaces for independent study

A supportive environment

We provide a friendly, collaborative and stimulating environment for your learning.

When you arrive at Southampton you'll be assigned a personal tutor and a highly experienced senior tutor. Your personal tutor will oversee your progress and offer help and advice throughout your degree. Your weekly tutorials will be an opportunity to discuss any issues or concerns. As you near the end of your studies, your tutor will be there to provide careers advice, and that all-important reference for your first job.

Through the student-run Physics Society - Physoc - students can help and support one another, and have fun while studying with us.

> For more details about our courses visit: www.southampton.ac.uk/ phys/courses

MODULE DESCRIPTIONS

Year one modules

Motion and Relativity

After a look at Newtonian mechanics, this module introduces special relativity and its consequences, including time dilation, length contraction and E=mc².

Electricity and Magnetism

The interactions of electric charges through electric and magnetic fields provide an excellent example of a fundamental force at work. These interactions, holding atoms together and binding them into everyday matter, are controlled by simple and elegant laws, which are examined in this module.

Energy and Matter

The laws of thermodynamics provide a very powerful tool for understanding the properties of matter – from the phases of water to black holes. This module offers an introduction to energy and matter and the inexorable increase of entropy in the Universe.

Waves, Light and Quanta

Light is an invaluable probe for studying the Universe. This module covers classical light propagation and then explores how a breakdown in the wave description of light led to the concept of photons and ultimately to the quantum mechanical revolution.

Programming and Data Analysis

In this computing module you'll be introduced to practical programming and data analysis. You'll use the skills that you learn in this module throughout the rest of your degree to interpret experimental and observational results.

Supplementary modules

A range of supporting modules introduce you to key mathematical tools and experimental methods in physics. These modules include 'mini-projects' that encourage you to think creatively in the lab as well as a computer programming and data analysis module. Weekly small-group tutorials provide an opportunity to discuss course topics.

Optional modules

Begin your in-depth exploration of a physics topic that interests you, from star and planet formation, to nanotechnology or photonics. You can also pursue your interests outside of physics and astronomy, such as computer science, chemistry, biology, oceanography, engineering, archaeology, philosophy or a foreign language, by choosing options delivered elsewhere in the University.

Year two modules

Maxwell's Electromagnetism

Study the fundamental equations that govern electromagnetic force and led to our understanding of light as an electromagnetic wave.

Quantum Physics

Quantum theory – through uncertainty and probability waves – dominates the atomic realm. This module explores how quantum mechanics works, starting from the Schrödinger equation.

Classical Mechanics

Study planetary dynamics, the motion of systems of particles and the strange behaviour of gyroscopes.

Wave Physics

Wave physics underlies all physics, from the properties and mechanics of waves and the origins of the processes of refraction, dispersion and interference, to the quantum mechanics of the uncertainty principle.

Statistical Mechanics

What is the difference between a metal and a non-metal? Why do some materials transfer heat or electricity well, while others don't? This module looks at this behaviour from the viewpoint of the quantum world of atoms.

Supplementary modules

Develop your problem-solving skills in problem classes; small-group sessions, where you'll work on a question related to your degree. You'll also continue to develop your mathematical skills.

Optional modules

Opportunities include the study of the Universe on a galactic scale or a look into our use of energy resources on Earth. You can also broaden your interests and select modules from other subject areas, or choose from a range of innovative cross-disciplinary modules.

Year three modules

Atomic Physics

The quantum mechanics of electrons is the key to understanding atoms and molecules. Calculating the energy spectrum of hydrogen atoms from first principles is one of the major triumphs of physics and forms an important part of the module.

Crystalline Solids

Understand the physical characteristics of crystalline materials, including superconductivity, heat capacity and magnetic properties. You'll examine, for example, how lattice vibrations are quantised as particles called phonons.

Nuclei and Particles

At the core of every atom are protons and neutrons which are bound together by the strong nuclear force. This module introduces models of the nucleus and examines the discovery of the many elementary particles in particle accelerators. This module looks at the search for a fundamental theory of matter at subnuclear scales.

Physics from Evidence II or Computer Techniques in Physics

The laboratory module provides hands-on experience to help you to develop a range of skills and techniques, while the computing module develops the use of computers for simulation and data analysis. Computation is often described as the third arm of science after theory and experiment.

MPhys options

You can take a variety of options, from nuclear physics through to general relativity and computer modelling.

BSc Project

This module is dedicated to a major experimental, theoretical or computer-based project. Recent examples of student projects have included detecting lightning strikes from the electro-magnetic excitations in the atmosphere and modelling heavy ion collisions.

BSc options

In the third year, you will have greater flexibility to choose options, from computer modelling through to nuclear physics and stellar evolution. Alternatively, there are a wide range of exciting modules you could take outside of physics, in areas such as oceanography, law and languages.

BSc Synoptic Physics

This module revisits the core curriculum of the BSc degree programme, encouraging understanding and synthesis of ideas from different modules. You'll develop your ability to solve real-world problems that you've never seen before, and finish your degree programme with a coherent understanding across the breadth of physics.

Year four modules (MPhys)

MPhys Project

A quarter of the final year is dedicated to a major project linked to one of our research groups. This project can be experimental, theoretical or computer based and you can choose from a wide variety of subjects. Recent examples range from laser trapping of nanoparticles, through to aurora studies and examinations of particle physics data.

Optional modules

The fourth year of an MPhys degree is all about specialising. You can choose from a host of subjects, such as advanced quantum mechanics, particle physics, cosmology, physics of the early Universe, liquid crystals, or space plasma physics.

MPhys Synoptic Physics

This module revisits the core curriculum of the MPhys degree programme, encouraging understanding and synthesis of ideas from different modules. You'll develop your ability to solve real-world problems that you've never seen before, and finish your degree programme with a coherent understanding across the breadth of physics.

Duration: Three years Fees: See page 44

Typical offers require A levels: AAB-ABB[‡], including

IB: Pass, with 34 points overall, with and physics or **32 points** overall, with 16 at higher level, including

Selection process: UCAS be subject to change. **Before you** apply, please visit: www.phys.soton.ac.uk/ entryreq

"

I lead the third year experimental laboratories - an optional module where students get to do a series of real research projects such as making their own high-temperature superconductors, building a laser, or determining the mass of cluster galaxies."

Professor David Smith Admissions Tutor

Find out more

For more details about your course such as module information and course structure, visit

www.southampton.ac.uk/phys/courses

Or to have specific questions answered: **T:**+44(0)2380599699

E: enquiry@southampton.ac.uk

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PHYSICS BSC - F300

Choose Southampton

- \rightarrow Learn about the fundamentals of time, matter and space and explore the physical theories that help us to understand our Universe
- \rightarrow Gain a professional physics training in three years, preparing you for your next steps in employment or academia
- \rightarrow Choose to switch to the four-year MPhys if you decide you'd like to deepen your knowledge

Expand your intellectual horizons, understand the theories that underpin the Universe and put concepts to the test in the lab. You'll immerse yourself in fascinating topics such as quantum mechanics, special relativity and the evolution of galaxies. Follow your passions and work towards your career goals by choosing from a wide range of optional modules in every year of study.

We'll help you to prepare for the future with tailored career support, placement opportunities and transferable skills built into our modules. With a qualification that is respected by employers, and sophisticated maths, computing and analytical skills, you'll be sought after in a range of professions.

Programme structure

Year one | Compulsory modules

- → Electricity and Magnetism
- Motion and Relativity
- → Physics Skills I
- \rightarrow Energy and Matter
- → Waves, Light and Quanta
- → Physics Skills II
- \rightarrow Physics Skills: Programming and Data Analysis
- → Mathematical Methods for Physical Scientists 1a
- → Mathematical Methods for Physical Scientists 1b

Year two | Compulsory modules

- → Electromagnetism
- \rightarrow Quantum Physics
- \rightarrow Classical Mechanics
- → Physics from Evidence I
- \rightarrow Wave Physics
- \rightarrow Statistical Mechanics

Year three | Compulsory modules

- → Nuclei and Particles
- → Crystalline Solids
- → Atomic Physics
- \rightarrow Project

PHYSICS **MPHYS - F303**

Choose Southampton

- \rightarrow This four-year degree is the ideal choice for students who want to become professional physicists, but is also an excellent foundation for a wide range of other careers
- \rightarrow Gain a rigorous scientific training, learning from academics who share your passion for physics
- \rightarrow This degree offers the most flexibility of all our physics and astronomy degrees, enabling you to explore the topics that interest you most, from guantum mechanics to cosmology

Channel your curiosity and investigate the beautiful - and sometimes paradoxical - concepts that underpin our understanding of space, time and matter. You'll gain new insights into phenomena ranging from time dilation to the birth of stars, and learn how the classical rules of behaviour change at the guantum level. You'll also learn key transferable skills such as statistical analysis, computation and coding, communication and project management.

With optional modules in every year of study, including options from other subject areas, you can tailor your degree to suit your interests.

Programme structure

Year one | Compulsory modules

- → Electricity and Magnetism
- → Motion and Relativity
- → Physics Skills I
- → Energy and Matter
- \rightarrow Waves, Light and Quanta
- → Physics Skills II
- \rightarrow Physics Skills: Programming and

Scientists 1b

- Data Analysis → Mathematical Methods for Physical
- Scientists 1a → Mathematical Methods for Physical



 \rightarrow MPhys Final Year Synoptic Examination

Year two | Compulsory modules

Year three | Compulsory modules

→ Electromagnetism

 \rightarrow Quantum Physics

→ Wave Physics

 \rightarrow Classical Mechanics

→ Physics from Evidence I

→ Statistical Mechanics

→ Nuclei and Particles

→ Crystalline Solids

 \rightarrow Theories of Matter.

Space and Time

→ Atomic Physics

→ Dissertation



Duration: Four years Fees: See page 44

Typical offers require

A levels: AAA-AAB[‡], including additional qualifications/evidence e.g. four A levels or grade A in

IB: Pass, with 36-34 points overall,

with 18-17 at higher level, including 6 points at higher level in both

Selection process: UCAS

be subject to change. Before you apply, please visit: www.phys.soton.ac.uk/ entryreq

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Physics is my passion. It's a challenging degree. but I greatly enjoy all my lectures and modules, and learning about new topics. My course allows me to pick optional modules which can be anything from philosophy to a language. I also have a personal tutor who is extremely helpful, and is there to answer any individual gueries I have."

Uluk Rasulov

MPhys Physics, third year

Find out more

For more details about your course such as module information and course structure, visit

www.southampton.ac.uk/phys/courses

Or to have specific questions answered: **T:**+44(0)2380599699 E: enquiry@southampton.ac.uk

Duration: Four years **Fees:** See page 44

Typical offers require A levels: AAA-AAB[‡], including

grades AA in mathematics/further mathematics and physics, with a pass in the physics practical. An alternative offer will be made on additional qualifications/evidence e.g. four A levels or grade A in the EPQ

IB: Pass, with 36-34 points overall, with 18-17 at higher level, including 6 points at higher level in both mathematics[†] and physics[‡] [†]We accept either of the new IB maths courses

Selection process: UCAS application, with an invitation to visit the department and have ar optional interview. [‡]An optional interview may lead to a lower off

Our typical entry requirements may be subject to change. **Before you apply**, please visit: www.phys.soton.ac.uk/ entryreq

66

On the field trip to Mount Teide in Tenerife I had the opportunity to set my own research question, take my own data using multimillioneuro telescopes and then analyse and write up my results. It made me feel like a real scientist!"

Sai Pandian MPhys Astrophysics with a Year Abroad, third year

Find out more

For more details about your course

Or to have specific questions answered:

E: enquiry@southampton.ac.uk

such as module information and course

www.southampton.ac.uk/phys/courses

PHYSICS WITH ASTRONOMY MPHYS - F3FM

Choose Southampton

- \rightarrow Investigate a we-inspiring astronomical events and fulfil your passion for astronomy
- → A field trip to Mount Teide in Tenerife provides opportunities for observation in a professional observatory
- \rightarrow Join a vibrant community of like-minded astronomers
- → You'll be prepared for a career as a professional astronomer, and develop advanced computing and data analysis skills which are valuable in many other careers

In astronomy, the Universe is your laboratory. See physics in action in the ultra-extreme conditions that are impossible to create here on Earth. You'll learn the science behind powerful phenomena such as white dwarfs, black holes and neutron stars, the evolution of the Universe, the formation of galaxies and space weather.

A special feature of this programme is the study visit to Tenerife, where 12 high-performing students get a taste of life as a professional astronomer. The trip includes a week-long stay at a mountaintop research observatory where students learn to collect data using a range of high-tech telescopes.

You'll join a vibrant community of like-minded astronomers. The student Astronomy Society - AstroSoc -meets every week to observe the skies, and organises astronomy trips and social activities.



The table shows the modules that

to the MPhys Physics compulsory

modules.

you'll take on this degree, in addition

Programme structure

Year one | Compulsory modules

 \rightarrow Introduction to Astronomy and

Year two | Compulsory modules

Year three | Compulsory modules

Year four | Compulsory modules

→ Photons in Astrophysics

→ Space Plasma Physics

→ Stellar Evolution

 \rightarrow Cosmology

Space Science

 \rightarrow Galaxies

You can use the on-site rooftop observatory for your project work

PHYSICS WITH SPACE SCIENCE MPHYS - F3FX

Choose Southampton

- \rightarrow Fuel your fascination for space and the technologies we use to investigate it
- → Explore a range of space-related fields, from the essentials of astronomy through to satellite design and space weather
- \rightarrow Develop specialist skills and knowledge that will equip you for a role in the fast-growing space economy
- \rightarrow A field trip to the University of La Laguna in Tenerife enables students to work on a space science mission design project

Explore the Universe through space science – science that uses data gathered in space rather than on Earth. You'll examine phenomena in the space environment that can only be monitored from space, such as geomagnetic storms and solar wind. You'll also combine your physics knowledge with key space engineering principles to learn about spacecraft design.

The use of space-based technology is expanding, with applications ranging from scientific research and environmental monitoring through to broadcasting and security.

This degree also includes a field trip to Tenerife, where students work on an intensive one-week space science mission design project as part of an international team.

The table shows the modules that you'll take on this degree, in addition to the MPhys Physics compulsory modules.



The global space market is set to almost double by 2030

House of Commons, Space Sector Report, 2017



Duration: Four years

Fees: See page 44

Typical offers require

A levels: AAA-AAB¹, including grades AA in mathematics/furthe mathematics and physics, with a pass in the physics practical. An alternative offer will be made on additional qualifications/evidence e.g. four A levelsor grade A in the EPQ

IB: Pass, with 36-34 points overall, with 18-17 at higher level, including 6 points at higher level in both mathematics[†] and physics[‡] [†]We accept either of the new IB maths courses

Selection process: UCAS application, with an invitation to visit the department and have an optional interview.[‡]An optional interview may lead to a lower offer Our typical entry requirements ma be subject to change. Before you apply, please visit: www.phys.soton.ac.uk/ entryreq

66

The ability to write a dissertation about magnetic reconnection – a phenomenon of space plasmas – and study the field further has been really enjoyable and seeded a longlasting interest."

Harry Lewis

MPhys Physics with Space Science, third year

Year three | Compulsory modules

Programme structure

Year one | Compulsory modules

 \rightarrow Introduction to Astronomy and

Year two | Compulsory modules

 \rightarrow European Dimension in Space

Space Science

stronautics

- ightarrow Advanced Astronautics
- ightarrow Space Plasma Physics

Year four | Compulsory modules

→ Spacecraft Orbital Mechanics and Control



For more details about your course such as module information and course structure, visit

www.southampton.ac.uk/phys/courses

Or to have specific questions answered:

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structure, visit

T:+44(0)2380599699

Duration: Four years **Fees:** See page 44

Typical offers require A levels: AAA-AAB[‡], including

rades AA in mathematics/further nathematics and physics, with a ass in the physics practical. An iternative offer will be made on dditional qualifications/evidence g. four A levels or A grade in ne EPQ

IB: Pass, with **36-34 points** overall, with 18-17 at higher level, including 6 points at higher level in both mathematics¹ and physics[‡] [†]We accept either of the new IB maths courses

Selection process: UCAS application, with an invitation to visit the department and have an optional interview.[‡]An optional interview may lead to a lower offer Our typical entry requirements ma be subject to change. Before you apply, please visit: www.phys.soton.ac.uk/ entryreq

66

Through studying challenging mathematical and computational modules and undertaking research, I have proven that I can come up with original solutions to complex problems. This has made me a more confident person and helped me acquire my own style of doing physics."

Lidia Gomes Da Silva

MPhys Physics with Mathematics, 2019

Find out more

For more details about your course such as module information and course structure, visit

www.southampton.ac.uk/phys/courses Or to have specific questions answered: T: +44 (0)2380599699 E: enquiry@southampton.ac.uk

PHYSICS WITH MATHEMATICS MPHYS – F3GC

Choose Southampton

- → Develop a profound understanding of mathematics, the fundamental language of theoretical physics, and how to apply it to solve problems in physics and beyond
- → Learn from both physics and mathematics academics providing an in-depth knowledge of both disciplines
- \rightarrow Study topics such as general relativity, black holes and gravitational waves
- → Master analytical and computational techniques, opening up a huge range of career options



This degree combines a robust training in experimental and theoretical physics with in-depth study in related fields of mathematics. Optional modules enable you to go deeper into areas of mathematics and physics that interest you, such as quantum physics or gravitational waves.

This degree is delivered in partnership with Southampton's highly regarded Mathematical Sciences department, so you'll learn from experts in both disciplines. Your lecturers will include academics from the cross-disciplinary Southampton Theory Astrophysics and Gravity (STAG) Research Centre, who are involved in world-leading research in fields where mathematics and physics meet, such as particle physics and cosmology.

The table shows the modules that you'll take on this degree, in addition

to the MPhys Physics compulsory modules.

Programme structure

Year one | Compulsory modules

- → Linear Algebra I
- Year two | Compulsory modules
- ightarrow Partial Differential Equations
- → Vector Calculus and Complex Analysis

Year three | Compulsory modules

- → Relativity, Black Holes and Cosmology
- ightarrow Numerical Methods

Year four | Compulsory modules

- → Modelling with Differential Equations
- ightarrow Advanced General Relativity

66

I would recommend Southampton to new students as it is a place where you can really thrive both academically and socially. I have been impressed with how the University listens to its students' views and, as I am a course representative, I get to see this happen first hand."

Ria Pandit MPhys Physics with Astronomy, fourth year

Duration: Four years Fees: See page 44

Typical offers require

A levels: AAA-AAB[‡], including a pass in the physics ractical. An alternative offer will be made on

IB: Pass, with 36-34 points overall, with 18-17 at higher level, including 6 points at higher level in both

Selection process: UCAS be subject to change. Before you apply, please visit www.phys.soton.ac.uk/ entryreq

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My ambition is to be part of a revolution in the medical methods we have today."

Madalina Mironiuc MPhys Physics with Nanotechnology, fourth year

PHYSICS WITH NANOTECHNOLOGY MPHYS - F390

Choose Southampton

- \rightarrow From the tiny components that make our smartphones work to new medical diagnostic tools, nanotechnology continues to change the world
- \rightarrow On this degree you'll learn how to manipulate the quantum mechanical properties of materials
- \rightarrow Join a department with a thriving nanotechnology research hub. and fantastic facilities for project work
- \rightarrow You'll be prepared for a career in industry research and development, further study at PhD level or a wide range of other professions

Nanotechnology involves the study of matter down to the scale of a single atom. At this scale, materials behave in unusual ways. On this degree, you'll study these behaviours and learn how they can be harnessed for new purposes. You'll be introduced to the fundamental concepts of nanoscience from year one, building on this in later years with more in-depth study of light and matter interactions, quantum devices and nanomaterials

You'll be taught by academics who are making advances in exciting areas, including working on 'atom chips' for quantum computing and investigating the properties of carbon nanotubes. You'll also benefit from our fantastic facilities, which include a £120m Cleanroom Complex where you can conduct your own research.

The table shows the modules that you'll take on this degree, in addition to the MPhys Physics compulsory modules.

Find out more

For more details about your course such as module information and course structure, visit

www.southampton.ac.uk/phys/courses

Or to have specific questions answered: **T:**+44(0)2380599699 E: enquiry@southampton.ac.uk



Programme structure Year one | Compulsory modules

→ Introduction to Photonics

Year two | Compulsory modules

- → Introduction to the Nanoworld
- → Macromolecules of Life
- → Quantum Physics

Year three | Compulsory modules

- → Light and Matter
- → Dissertation in Nanotechnology

Year four | Compulsory modules

- → Nanoscience: Technology and Advanced Materials
- → Advanced Quantum Physics
- → Coherent Light, Coherent Matter

PHYSICS WITH **PHOTONICS** MPHYS - F369

Choose Southampton

- \rightarrow Discover the world-changing field of photonics (the science of light) and apply your physics knowledge to the next generation of technologies
- → Study a hands-on degree taught in dedicated undergraduate photonics teaching laboratories
- \rightarrow Prepare for a career in the UK's thriving photonics sector, worth over £12bn*
- \rightarrow The University of Southampton has a long heritage of discovery and a concentration of expertise in photonics

From the optical fibres that underpin the internet to new medical treatments. photonics has transformed our lives.

Through a wide choice of photonicsfocused optional modules, including MSc-level modules delivered by the University's Optoelectronics Research Centre, you can gain a deep understanding of areas of photonics that interest you. These cover the latest developments in fields such as optical fibre technology, fibre sensors and telecommunications, photonic materials and nanophotonics.

The UK's thriving photonics sector is worth over £12bn annually, while across Europe the sector is growing at twice the speed of the overall economy.* This degree will prepare you for a career in this dynamic and well-paid industry. Alternatively, you could continue your studies at PhD level or use your transferable skills in a wide range of other sectors.

The table shows the modules that you'll take on this degree, in addition to the MPhys Physics compulsory modules.

* UK Photonics: The Hidden Economic Engine. Photonics Leadership Group, The Future Photonics Hub and Innovate UK Knowledge Transfer Network 2018



Duration: Four years Fees: See page 44

Typical offers require

A levels: AAA-AAB[‡], including

additional qualifications/evidence e.g. four A levels or grade A in

IB: Pass, with 36-34 points overall, with 18-17 at higher level, including 6 points at higher level in both

Selection process: UCAS be subject to change. Before you apply, please visit: www.phys.soton.ac.uk/ entryreq

"

I love studying here, there's an amazing sense of family that I feel you don't get in other universities. Everyone is super willing to help you, from the PhD students that you get to know through problem classes and social events, to the lab technicians and lecturers themselves.

Thomas Radford

fourth year

 \rightarrow Dissertation

→ Practical Photonics

→ Light and Matter

Year four | Compulsory modules

Programme structure

Year one | Compulsory modules

Year two | Compulsory modules

Year three | Compulsory modules

→ Introduction to Photonics

- → MPhys Project
- → Coherent Light, Coherent Matter
- \rightarrow Lasers

MPhys Physics with Photonics,

Find out more

For more details about your course such as module information and course structure, visit

www.southampton.ac.uk/phys/courses

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Or to have specific questions answered: **T:**+44(0)2380599699 E: enquiry@southampton.ac.uk



PHYSICS WITH PHOTONICS

Duration: Four years **Fees:** See page 44

Typical offers require A levels: AAA-AAB, including

grades AA in mathematics/further mathematics and physics, with a pass in the physics practical. An alternative offer will be made on additional qualifications/evidence e.g. 4 A-levels or grade A in the EPQ **IB:** Pass, with **36-34 points** overall, with 18-17 at higher level, including 6 points at higher level in both mathematics¹ and physics ¹We accept either of the new IB maths courses **Selection process:** Apply via UCAS to MPhys Physics with Astronomy

to MPhys Physics with Astronomy F3FM. Our top students are offered the opportunity to switch to Astrophysics with a Year Abroad at the end of their second year Our typical entry requirements ma be subject to change. **Before you apply**, please visit: **www.phys.soton.ac.uk/ entryreq**

66

ASTROPHYSICS WITH A YEAR ABROAD

From an academic point of view, being able to work solely on research and gain new skills has definitely helped me go onto the PhD I'm doing next. From a life point of view, getting to live that far away from home and meet a whole new set of people was amazing. I had a great year."

Claire Baker

MPhys Astrophysics with a Year Abroad, 2017 PhD in neurotechnology at Imperial College London

Find out more

For more details about your course such as module information and course structure, visit

www.southampton.ac.uk/phys/courses

Or to have specific questions answered: **T:** +44 (0)23 8059 9699 **E:** enquiry@southampton.ac.uk

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ASTROPHYSICS WITH A YEAR ABROAD MPHYS - F3FM

Choose Southampton

- → Spend your final year immersed in research at the Harvard-Smithsonian Center for Astrophysics in Boston, USA
- → You'll work as part of an international research term, gaining the advanced skills and knowledge you need to become a professional astronomer or astrophysicist
- → Your time at Harvard will make your CV stand out to employers in any profession

This degree is open to our top five MPhys Physics with Astronomy students, who can choose to spend their fourth year working on a research project at the Harvard-Smithsonian Center for Astrophysics (CfA), the world's largest centre for the study of the Universe. We are the only UK university that partners with the CfA in this way, so it's a truly unique opportunity to gain advanced research skills.

Programme structure

Year one | Compulsory modules

- ightarrow Motion and Relativity
- ightarrow Physics Skills I
- → Electricity and Magnetism
- Mathematical Methods for Physical Scientists 1a
- → Introduction to Astronomy and Space Science
- ightarrow Waves, Light and Quanta
- → Energy and Matter
- ightarrow Physics Skills II
- ightarrow Physics Skills: Programming and
- ightarrow Data Analysis
- Mathematical Methods for Physical Scientists 1b

Year two | Compulsory modules

- $\xrightarrow{\rightarrow} \text{Classical Mechanics}$ $\xrightarrow{\rightarrow} \text{Galaxies}$
 - → Physics from Evidence I

vou need to become a hysicist CV stand out to You'll choose an aspect of astronomy that interests you and investigate it through the analysis of space data, getting a flavour of PhD-level research. Academics at the CfA offer a wide range of research projects, so there's plenty of scope to find a topic that inspires you; for example, past projects have investigated supermassive black holes, galaxy

ightarrow Wave Physics

clusters and star formation.

ightarrow Electromagnetism

- Quantum Physics
- → Design and Observation in Astronomy
- \rightarrow Statistical Mechanics

Year three | Compulsory modules

- → Crystalline Solids
- Atomic Physics
- → Photons in Astrophysics
- \rightarrow Cosmology
- ightarrow Nuclei and Particles
- → Theories of Matter, Space and Time
- Stellar Evolution
- → Computer Techniques in Physics

Year four | Compulsory modules

→ Astrophysics Research Project

ASTROPHYSICS WITH A YEAR OF RESEARCH MPHYS - F3FM

Choose Southampton

- \rightarrow Work on a research project alongside our academics within the Astronomy Group here at Southampton
- \rightarrow Enjoy the challenge of working on a real, unsolved problem in astronomy
- \rightarrow Gain incredible research experience which will stand out on your CV when you graduate

Join our Astronomy Group and work with our academics on a real research project which could be anything from galaxy evolution and active galactic nucleus, to supernovae and compact objects in our own Galaxy. We take two of our top-performing MPhys Physics with Astronomy students onto this degree each year, who can choose to switch to this programme at the end of their second year.

Programme structure

Year one | Compulsory modules

- → Motion and Relativity
- \rightarrow Physics Skills I
- \rightarrow Electricity and Magnetism
- → Mathematical Methods for Physical
- Scientists 1a → Introduction to Astronomy and
- Space Science
- → Waves, Light and Quanta
 → Energy and Matter
- \rightarrow Physics Skills II
- Physics Skills Programming and
- Data Analysis → Mathematical Methods for Physical
- Scientists 1b
 Year two | Compulsory modules

→ Classical Mechanics

 \rightarrow Galaxies

You'll learn new data-analysis techniques and gain advanced research experience, giving you a flavour of life as a PhD student. Whether you're interested in a career in research or want to go onto do something different, this degree will give you the opportunity to get more impactful letters of recommendation from your project supervisors, making your CV stand out when you apply for jobs.

ightarrow Physics from Evidence I

- ightarrow Wave Physics
- \rightarrow Electromagnetism
- → Quantum Physics
- ightarrow Design and Observation in
- Astronomy
- ightarrow Statistical Mechanics

Year three | Compulsory modules

- ightarrow Crystalline Solids
- → Atomic Physics
- → Photons in Astrophysics
- \rightarrow Cosmology
- → Nuclei and Particles
- ightarrow Theories of Matter, Space and Time
- ightarrow Stellar Evolution
- → Computer Techniques in Physics

Year four | Compulsory modules

→ Astrophysics Research Project

Key information

Duration: Four years

Fees: See page 44

Typical offers require

A levels: AAA-AAB, including grades AA in mathematics/further mathematics and physics, with a pass in the physics practical. An alternative offer will be made on additional qualifications/evidence e.g. four A levels or grade A in the EPQ

IB: Pass, with 36-34 points overall. with 18-17 at higher level, including 6 points at higher level in both mathematics¹ and physics ¹We accept either of the new IB maths courses **ASTROPHYSICS WITH A YEAR OF RESEARCH**

Selection process: Apply via UCAS to MPhys Physics with Astronomy F3FM. Our top students are offered the opportunity to switch to Astrophysics with a Year in Research at the end of their second year. Our typical entry requirements may be subject to change. **Before you apply**, please visit: www.phys.soton.ac.uk/ entryreq

we are excited about the

possibility of working with

verv motivated students.

and challenging projects

which could potentially be

published in a prestigious

finish your degree with a

Dr Diego Altamirano

Find out more

structure, visit

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For more details about your course

Or to have specific questions answered:

E: enquiry@southampton.ac.uk

such as module information and course

www.southampton.ac.uk/phys/courses

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Programme Leader

scientific journal. You could

scientific paper on your CV!"

We will be tackling very cool

I In the Astronomy Group,

Duration: Four years **Fees:** See page 44

Typical offers require A levels: AAA-AAB, including

grades AA in mathematics/further mathematics and physics, with a pass in the physics practical. An alternative offer will be made on additional qualifications/evidence e.g. four A levels or grade A in the EPQ

IB: Pass, with 36-34 points overall, with 18-17 at higher level, including 6 points at higher level in both mathematics¹ and physics ¹We accept either of the new IB maths courses

Selection process: Apply via UCAS to MPhys Physics F303. Our top students are offered the opportunity to switch to Particle Physics with a Research Year Abroa at the end of their second year Our typical entry requirements ma be subject to change. **Before you apply**, please visit: www.phys.soton.ac.uk/ entryreq

66

PARTICLE PHYSICS WITH A RESEARCH YEAR ABROAD

My time at CERN was incredibly exciting, challenging and busy. I enjoyed working at such a scientifically significant place, which has a collaborative and intellectual atmosphere."

William Smith

MPhys Particle Physics with a Research Year Abroad, 2019; Trainee Patent Attorney D Young & Co LLP

Find out more

For more details about your course such as module information and course structure, visit

www.southampton.ac.uk/phys/courses

Or to have specific questions answered:

T:+44(0)2380599699

E: enquiry@southampton.ac.uk

PARTICLE PHYSICS WITH A RESEARCH YEAR ABROAD MPHYS - F303

Choose Southampton

- \rightarrow Spend a year at CERN in Geneva, Switzerland, working as part of an international research team
- \rightarrow Develop a profound knowledge of particle physics, and apply it to your research project at CERN
- → This degree provides an exceptional opportunity to gain advanced knowledge and experience which will give you a big advantage if you choose to apply for a PhD

If you're one of the top-performing students on our MPhys Physics degree, you can apply to join this programme. You'll work alongside the PhD students at CERN, participating in working group sessions with other researchers on your project and presenting your work to colleagues.

Research topics include investigating the differences between matter and antimatter, or searching for new particles. Some of our students have

Programme structure

Year one | Compulsory modules

- ightarrow Motion and Relativity
- \rightarrow Physics Skills I
- → Electricity and Magnetism
- Mathematical Methods for Physical Scientists 1a
- ightarrow Waves, Light and Quanta
- ightarrow Energy and Matter
- ightarrow Physics Skills II
- ightarrow Physics Skills: Programming and
- ightarrow Data Analysis
- → Mathematical Methods for Physical Scientists 1b

Year two | Compulsory modules

ightarrow Classical Mechanics

conferences, and your research could lead to the publication of your first scientific paper.

the opportunity to present at external

Your experience at CERN will be recognised by research institutions all over the world, opening up a wide range of PhD possibilities. Or if you decide to pursue a different career, your rigorous physics training will prepare you for success in your chosen profession.

ightarrow Physics from Evidence I

- ightarrow Wave Physics
- ightarrow Electromagnetism
- ightarrow Quantum Physics
- ightarrow Statistical Mechanics

Year three | Compulsory modules

- \rightarrow Crystalline Solids
- → Atomic Physics
- ightarrow Advanced Quantum Physics
- \rightarrow Nuclei and Particles \rightarrow Theories of Matter,
- Space and Time
- → Particle Physics
- → Computer Techniques in Physics

Year four | Compulsory modules

ightarrow Particle Physics Research Project

PHYSICS WITH A YEAR OF EXPERIMENTAL RESEARCH MPHYS - F303, F390 OR F369

Choose Southampton

- \rightarrow Spend a year within a professional research group here at Southampton working on an experimental research project
- \rightarrow Gain a deep understanding of core physics theories, as well as a taste of PhD-level research
- \rightarrow Your advanced experimental research skills will make you stand out from the competition if you apply for a PhD

From ultra-efficient solar cells to revolutionary quantum computing technologies, the closely related fields of nanoscience, photonics and quantum physics continue to change the world. Offered to top-performing students on the MPhys Physics, MPhys Physics with Nanotechnology and MPhys Physics with Photonics degrees, this flagship programme is a chance to undertake an in-depth, year-long experimental research project that will contribute to our understanding of these dynamic fields.

Programme structure

Year one | Compulsory modules

- ightarrow Motion and Relativity
- → Physics Skills I
- → Electricity and Magnetism
- → Physics Skills: Programming and Data Analysis
- → Mathematical Methods for Physical
- Scientists 1a \rightarrow Waves, Light and Quanta
- \rightarrow Energy and Matter
- \rightarrow Physics Skills II
- → Physics Skills Programming and
- Data Analysis \rightarrow Mathematical Methods for Physical
 - Scientists 1b →

Key information

Duration: Four years Fees: See page 44 Typical offers require A levels: AAA-AAB, including grades AA in mathematics/furth mathematics and physics, with a

mathematics and physics, with a pass in the physics practical. An alternative offer will be made on additional qualifications/evidence e.g. four A levelsor grade A in the EPQ

IB: Pass, with 36-34 points overall, with 18-17 at higher level, including 6 points at higher level in both mathematics' and physics [†] We accept either of the new IB maths courses PHYSICS WITH A YEAR OF EXPERIMENTAL RESEARCH

Selection process: Apply via UCAS to MPhys Physics F303, MPhys Physics with Nanotechnology F390 or MPhys Physics with Photonics F369. Our top students are offered the opportunity to switch to Physics with a Year of Experimental Research at the end of their second year Our typical entry requirements may be subject to change. Before you apply, please visit: www.phys.soton.ac.uk/ entryreq

- ryreq
- Year two | Compulsory modules → Classical Mechanics

You'll work alongside professional researchers in our materials and

our £120m Cleanroom Complex -

Previous projects have involved

for use in quantum computing.

one of the best of its kind in Europe.

exploring the properties of carbon

nanotubes and optimising holograms

Your advanced experimental research

skills will give you an advantage if you

decide to apply for a PhD. Or you

analysis, computing and problem

could use your physicist's talent for

solving to pursue a career in industry.

photonics laboratories, with access to

- → Physics from Evidence I
- \rightarrow Wave Physics
- → Electromagnetism
- \rightarrow Quantum Physics
- → Statistical Mechanics

Year three | Compulsory modules

- Al → Crystalline Solids
 - ightarrow Atomic Physics
 - Advanced Quantum Physics
 - Nuclei and Particles
 - → Theories of Matter, Space and Time

Year four | Compulsory modules

→ Quantum, Light and Matter Physics Research Project



www.southampton.ac.uk/phys/courses

Or to have specific questions answered: **T:** +44 (0)2380599699 **E:** enquiry@southampton.ac.uk

Duration: Four years Fees: See page 44

Typical offers require A levels: AAA-AAB, including

pass in the physics practical. An alternative offer will be made on

IB: Pass, with 36-34 points overall, with 18-17 at higher level, including 6 points at higher level in both

Selection process: Apply via be subject to change. Before you apply, please visit: www.phys.soton.ac.uk/ entryreq

MPHYS PHYSICS WITH INDUSTRIAL PLACEMENT

My placement was a great opportunity to experience working in a research and development company. I was offered a position after I graduated and now work as a research engineer; I'm currently working on developing a new range of optics products."

Sheona Day

MPhys Physics with Industrial Placement, 2018: Research Engineer, Gill Research & Development

Find out more

For more details about your course such as module information and course structure, visit

www.southampton.ac.uk/phys/courses

Or to have specific questions answered: **T:**+44(0)2380599699

E: enquiry@southampton.ac.uk

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Choose Southampton

- \rightarrow As part of your degree you'll join a company for six months on a paid industrial placement
- \rightarrow Apply your core physics skills to a research and development project in a high-tech organisation
- \rightarrow Develop professional skills and commercial awareness that will help you to get an exciting, well-paid job when you graduate



Open to top-performing students on the MPhys Physics degree, the MPhys Physics with Industrial Placement is a chance to build skills you can only learn in a commercial environment. We regularly place students with companies such as global radiation detection company Symetrica, fibre laser specialists NKT Photonics, and electronics and engineering consultancy Roke Manor Research Ltd.

Unlike the sandwich-year placements offered by many other universities, this integrated industrial placement won't add an extra year to your studies. You'll be able to enter the job market after four years with real-world experience that will impress employers.

Programme structure

This programme follows the MPhys Physics programme throughout, except for the summer between years three and four and semester one of year four, which are spent in industry.



Many of our students are employed by their placement company when they graduate

MATHEMATICAL PHYSICS MMATH - FF34

Choose Southampton

- → Students on this course are registered in Mathematical Sciences, but study modules from both Physics and Astronomy and Mathematical Sciences
- \rightarrow You'll graduate with a strong understanding of the forces of nature, guantum theory and general relativity
- → Mathematical Sciences has strong links with graduate recruiters across a range of industries including academia, government, analytics, actuary and finance

This degree has developed from the research of the Southampton Theory, Astronomy and Gravitation (STAG) Research Centre, one of the largest research groups of its kind in Europe. You'll explore mathematical physics in detail, combining core modules from our physics and mathematics degrees, and benefiting from the expertise of STAG researchers.

You may specialise in particle physics, astronomy, condensed matter theory or the formal elements of mathematical physics. The programme includes a final-year project that may be taken across any of these strands.

As a Mathematical Sciences student, you'll benefit from the Mathematics Student Centre, which offers a supportive environment for both study and socialising. You can attend talks, study in small groups or enjoy activities such as film nights, surrounded by like-minded and supportive students and staff members.

Year three | Compulsory modules

- → Atomic Physics
- \rightarrow Mathematical Investigation and Communication

Year four | Compulsory modules

→ MMath Project

Key information

Duration: Four years Fees: See page 44

Typical offers require

A levels: AAA or AABB, including

physics, with a pass in the physics practical. Students taking

IB: Pass, with **36 points** overall,

Selection process: UCAS

may be subject to change. Before you apply, check our website for

Programme structure

Year one | Compulsory modules

- \rightarrow Waves, Light and Quanta
- → Energy and Matter
- \rightarrow Motion and Relativity
- → Physics Skills I
- → Physics Skills II
- → Electricity and Magnetism
- → Linear Algebra I
- → Linear Algebra II
- \rightarrow Calculus
- → Multivariable Calculus

Year two | Compulsory modules

- → Electromagnetism
- \rightarrow Quantum Physics
- \rightarrow Classical Mechanics
- → Wave Physics
- \rightarrow Statistical Mechanics
- \rightarrow Vector Calculus and Complex Variable
- \rightarrow Partial Differential Equations

Find out more

structure, visit

T:+44(0)2380599699

For more details about your course

Or to have specific questions answered:

E: enquiry@southampton.ac.uk

such as module information and course

www.southampton.ac.uk/phys/courses

MATHEMATICAL PHYSICS

Duration: One year Fees: See page 44 Typical offers require A levels: ABB[†] IB: 32 points[†] BTEC Level 3 National Extended Diploma (RQF): DDD[†]

Selection process: UCAS application; additional information may be required, such as a mathematics test and/or interview Our typical entry requirements may be subject to change. Before you apply, please refer to the website for the latest information including English language requirements: www.southampton.ac.uk/ phys/foundation-year

PHYSICS WITH FOUNDATION YEAR

PHYSICS WITH FOUNDATION YEAR MPHYS - F305 BSC - F301

Choose Southampton

- → Designed for students who have not taken the traditional A level subjects for direct entry onto our degree programmes
- → On completion, choose a physics degree or another programme from one of our 17 undergraduate degree areas
- \rightarrow Guaranteed accommodation in our halls of residence



This stimulating year of study is suitable for UK, EU, international and mature students who who are highly motivated but who don't have the traditional qualifications of UK mathematics and physics A levels.

During the Foundation Year you will build your understanding of mathematics, mechanics, computer programming, electricity and electronics, and engineering principles.

Successful completion of the Foundation Year can lead you to a place on any one of 17 undergraduate degree disciplines, including physics. The remaining three or four years are spent studying your chosen degree, for example BSc or MPhys Physics.

The Foundation Year provides an excellent platform for students entering our degree programmes. Students who joined a Physics and Astronomy degree from the Foundation Year have gone on to undertake PhDs at a number of different universities, and enjoy successful careers in industry.

OPTIONAL MODULES

With module choice in every year of your degree, you can shape your studies to your interests and career aspirations. You can study modules within Physics and Astronomy in areas ranging from astronomy to photonics, or study modules from the wider University in subjects such as business, law, psychology, engineering or chemistry.

Here are some of the optional modules chosen by students in previous years to give you a flavour of the range of topics available. For full details of our optional modules please visit: **www.southampton.ac.uk/phys**

Physics optional modules

- → Introduction to Astronomy and Space Science
- \rightarrow Introduction to Photonics
- → Spacecraft Systems and Design
- → Linear Algebra I
- \rightarrow Galaxies
- → Practical Photonics
- \rightarrow Medical Physics
- → Introduction to Energy and the Environment
- ightarrow Introduction to the Nanoworld
- → Photons in Astrophysics
- ightarrow Stellar Evolution
- → Light and Matter
- → Relativity, Black Holes and Cosmology
- → Numerical Methods
- \rightarrow Applied Nuclear Physics
- → PHYS3019 Communicating and Teaching (undergraduate ambassadors scheme)
- → Advanced Quantum Physics
- > Space Plasma Physics
- → Coherent Light, Coherent Matter
- \rightarrow Lasers
- → Particle Physics
- \rightarrow Cosmology
- \rightarrow Nanoscience

Wider University

optional modules Psychology

- → Developmental Psychology
- \rightarrow Psychology of Advertising
 - Psychology of Advertising

Chemistry

ightarrow Introduction to Chemistry

Music

- \rightarrow Composition Fundamentals
- \rightarrow Jazz Theory

Languages

- → Japanese Language Stage 1A
- → Chinese Language Stage 2B
- \rightarrow French Language
- Stage 2B

Electronics and Computer Science

- → Advanced Systems and Signal Processing
- ightarrow Embedded Processors

Optoelectronics Research Centre

- ightarrow An Introduction to
- Silicon Photonics
- ightarrow Advanced Lasers

Aeronautics and Astronautics

- \rightarrow Astronautics
- → Spacecraft Propulsion
- → Spacecraft Orbital Mechanics and Control

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structure, visit

T: +44(0)2380599699 **E:** enquiry@southampton.ac.uk

courses

Find out more

For more details about your course such as module information and course

www.southampton.ac.uk/phys/

Or to have specific questions answered:

Thanks to our research, facilities, experts and connections, you have the opportunity to have unique, hands-on experiences and change lives around the world.

Joining a Russell Group university has many benefits for your education. Russell Group universities are committed to the highest standards of research and teaching; here at Southampton we're changing the way the world and society works.

For you, that means being surrounded by trailblazing research. As you're learning from the people who are making the discoveries, you'll be taught the most up-to-date knowledge in your lectures and seminars. There are opportunities to get involved with research through your projects or summer placements, and you'll be able to access the facilities that we use for our research.

Our history in Physics and Astronomy spans almost 60 years and we've been instrumental in many major developments. We created superbright, energy efficient LED lights which are used by millions of people across the world and our researchers were fundamental in developing the internet as we know it today. More recently our scientists were involved in detecting gravitational waves and light from the collision of two neutron stars for the first time.

Artist's illustration of two merging neutron stars. The narrow beams represent the gamma-ray burst while the rippling spacetime grid indicates the isotropic gravitational waves that <u>characterise</u> the merger.

Here's a flavour of some of the research we're working on which you could learn about or even become involved with as part of your degree. We are:

- → Working with data from the Large Hadron Collider to search for neutrino superpartners
- → Adapting an algorithm which is used for monitoring supernovae explosions to detect the early signs of skin cancer
- → Developing X-rays that will enable us to better see the tiniest details. This will have many impacts; from detecting cancers, through to designing aircraft which are fully carbon fibre.
- → Using new techniques to 'weigh' supermassive black holes
- → Reducing the size of a core component of quantum technology, which will be found in nextgeneration computing and sensors

66

My summer placement within the University's Integrated Nanophotonics Group was an invaluable experience and a highlight of my time at Southampton. During my placement I worked in collaboration with PhD students and post-doctorate researchers. This gave me an insight into the practicalities of research and allowed me to implement the skills I had developed in practical labs modules, but with increased freedom and independence."

Ana Hammer MPhys Physics, fourth ye Top 5

department for research output among Russell Group universities

REF 2014



Research-grade facilities include two rooftop telescopes and a photonics laboratory with high-tech laser equipment



of Physics and Astronomy research is rated world leading or internationally excellent REF 2014



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YOUR CAREER

Your future doesn't start when you graduate; it begins the moment you join us at Southampton.

Fast track your ambitions

- → Whether you have a plan in mind, or you are unsure about where life may take you, our Careers and Employability Service can guide and support you at every stage.
- → Our strong links with business and highly valued reputation in industry means that we provide numerous opportunities to help you discover and realise your potential.
- → Take advantage of work placements, internships and voluntary roles, and attend our careers fairs, one-to-one advice sessions, and employer-led events.
- → We offer Career Coaching to first-generation students, and the chance for under-represented students to improve social mobility through our Advance Programme.
- → We have everything you need to achieve your entrepreneurial goals: make the most of available funding, attend workshops and summer schools and access our extensive expertise.

Showcase your potential

- → Develop transferable skills throughout your physics degree which are sought after by employers, such as computational, coding, analytical, communication and project management skills.
- → Boost your employability with a South East Physics Network (SEPnet) placement. Together with SEPnet, we help students to find paid, eight-week summer placements.
- → Take advantage of a programme of career-focused sessions in year two, designed specifically for physics students and timetabled to fit with your studies. These include application and interview workshops, as well as talks from visiting professionals.
- Meet with our Employer Engagement Officer who provides dedicated support to physics students, from careers advice to CV reviews and help with finding placements.

Top 20 UK university targeted by the largest number of top employers*



the door to a wide range of opportunities, from research through to roles in industries such as business, finance, engineering, law and media. Here are just some of the jobs our graduates have gone into:

A physics degree opens

Accountant Acoustician Air traffic controller Astrophysicist Bioinformatics specialist Business analyst Data analyst Games developer Geophysicist Government science policy officer Journalist Mechanical engineer Satellite engineer Science communicator Software engineer Statistician Systems analyst Weather forecaster Web developer

*Graduate Market in 2019, High Fliers Research ** (within six months of completing their degree); DLHE, 2016/17 ***HESA DLHE 2016/17, Table 13a (includes both undergraduate and postgraduate graduates)

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In my second year I organised a summer internship at Roke, supported by the career advisor within Physics and Astronomy. While I was there I asked my line manager if I could do my placement with Roke too, as this was an option as part of my course. The six-month placement must have gone well as they offered me a job, and I now work as a consultant. I am thankful the University gave me the opportunity to do the placements as part of my degree."

Alexi Bullen

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MPhys Physics with Industrial Placement, 2018 Consultant at Roke Manor Research

> Find out more: www.southampton.ac.uk/ sb/careers

BECOMING A MEDICAL PHYSICIST

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I really enjoyed studying physics at Southampton; the core modules were very engaging with excellent teaching – and some great characters – and the labs complemented the core learning well.

"The University helped me find a position as a trainee medical physicist on the NHS Scientist Training Programme (STP). The STP lasted for three years and I then secured a job as a Clinical Scientist in nuclear medical physics at the Royal Surrey County Hospital. My job role is very varied, which is why I enjoy it so much. I provide radionuclide therapies (a type of radiotherapy) to treat various cancers and other conditions and I support the development of the Hospital's nuclear medicine imaging service. I also have the opportunity to do research into emerging techniques.

"My degree gave me many skills that allowed me to develop as a medical physicist. Firstly the various nuclear and medical physics modules I completed gave me the base knowledge and enthusiasm for the subject, which I have developed throughout my training and career. But more than that, the practical lab courses and the completion of the master's research project have been invaluable when having to critically analyse results which will impact on patients. Part of my job includes doing some computer programming too, for which I still rely on my notes from the computing lab modules that I undertook as part of my degree.

"I really enjoy my job – although I wish I could still be a student at Southampton sometimes!"

James Gray

MPhys Physics, 2015; Clinical Scientist, Royal Surrey County Hospital

Find out more: www.southampton.ac

YOUR STUDENT LIFE

Your time at Southampton will make your degree a lot more than just a qualification.

Campuses

We have five campuses in Southampton, one in Winchester and one in Malaysia. Each has its own distinct personality and community.

Highfield is our main campus; it is home to historic buildings, cuttingedge research and teaching facilities, and the Students' Union, as well as our beautiful green spaces. Highfield is a hub of activity and the perfect place to study, relax, and socialise.

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uni_southampton

Follow us on Instagram to see more pictures of our campuses

Just a few minutes' walk from Highfield, and on the edge of Southampton Common, Avenue Campus is where you'll find most of our humanities subjects. Avenue houses our state-of-the-art £3m Archaeology building.

Boldrewood Innovation Campus is the base for engineering studies and research. Facilities include a driving simulator, design studios, a 138m towing tank and our £48m National Infrastructure Laboratory.

One of the UK's leading teaching hospital trusts, University Hospital Southampton NHS Foundation Trust is the base for the study of medicine and healthcare. Our unique waterfront campus, based at the National Oceanography Centre Southampton (NOCS), is one of the world's leading research centres for the study of ocean and Earth science.

Winchester School of Art (WSA) is located 12 miles north of Southampton, in Winchester city centre. With creative ambition at its core, WSA supports students with cutting-edge resources including specialist computer suites, studios, 3D printing, industrial sewing and knitting machines, and more.

Set within the EduCity Iskandar development in Johor, Southampton Malaysia offers split degrees in several undergraduate Engineering programmes. Students benefit from our world-class teaching and course content in a safe and supportive international environment with excellent facilities.

Social life

Run for students by students, the Students' Union aims to unlock the potential and enrich the life of every student. Its main purpose is to look after the academic interests of all students, through their representation system, elections and Advice Centre.

- → Experience Freshers' a full programme of activities to help you settle in.
- → Join one of more than 300 clubs and societies, and try everything from archery and performing arts to debating and quidditch.
- → Enjoy food from a Michelin-trained chef at student prices in The



Bridge, try delicious vegan and vegetarian food in The Plant Pot, or socialise with friends in The Stag's sports bar.

- → Catch a film in the Union's 260-seat cinema, run by student volunteers.
- Become a DJ or station manager at Surge Radio and SUSUtv.
- → Get free, independent and confidential advice from the Advice Centre on matters including student finance, housing and academic issues.
- → Run for one of the positions in the Students' Union's elections and become the voice of students across the University.

Sport

- → Swim in our six-lane, 25-metre pool or use the varied fitness equipment across our nine gyms: six on campus and three more in the city.
- → Your subsidised Sport and Wellbeing membership gives you access to a host of facilities and activities across the city including a dry ski slope, athletics track, and free watersports.

Physoc

 As a physics student, you will automatically become part of our student-led physics society. Physoc has twice been recognised as the best undergraduate physics society in the UK by the Institute of Physics.



→ Physoc promotes physics through activities such as an annual Nobel Prize talk, employer events and outreach activities. It also has a lively programme of sports activities and socials.

Women in science

- We hold Athena SWAN Silver status and are an Institute of Physics Project Juno Champion, which demonstrates
- our commitment to addressing the under-representation of women in physics and astronomy, and encouraging better working environments for both women and men.
- → The Women's Physics Network promotes the career development of women in physics.



Institute of Physics Juno Champion

- o1 Socialising at bars and restaurants.
 o2 An evening out at Hollywood Bowl.
 o3 Students performing at live music events.
- 04 Westquay shopping centre.



OUR INTERNATIONAL COMMUNITY

Join our vibrant and diverse international student community; study, make lifelong friendships and socialise on the south coast of the UK.

We welcome students from over 130 countries, including around 7,450 EU and international students.

Support and advice

Living and learning in a different country is a big step, so we ensure that our international students have all the support they need.

From ensuring a straightforward entry process, to offering attractive scholarships to eligible applicants, we can help you settle in to your new life in the UK.

Meet us in your country

www.southampton.ac.uk/sb/ meetus

Our International Office

Wherever you are in the world, it is easy to discover how to become a part of our community. Our friendly International Office staff regularly travel overseas and within the UK to meet potential students at exhibitions and events.

We are always happy to help and can answer any questions you may have about living and studying here.

Welcome Programme

Every September, we arrange a free Welcome Programme for international and EU students, which is designed to help you settle into life in the UK and at the University before your studies begin. Meet other undergraduate students, attend talks, explore our campuses and the city, and more.

Meet and Greet

We organise a free Meet and Greet service for all new international and EU students in September each year. Our representatives meet you at Heathrow or Gatwick Airport and transport you directly to our campuses.

You can register for the Welcome Programme and Meet and Greet service from July.

English language requirements and support

You will need to demonstrate that you have sufficient knowledge of the English language in order to be able to benefit from all academic activities at the University.

For details about English language requirements for our courses, visit our website.

As I was moving away from

home for the first time, I was

anxious about almost everything;

from the weather forecast, to

food! Once in Southampton, I

discovered that things aren't as

I could make even more friends

as well as maintain a work-life

balance. And just outside the

campus I could even find kebabs!"

MPhys Physics with Astronomy, third year

and by joining societies

Stefani Petropoulou

bad as I had thought! It was sunny,

66

We also offer a wide range of support programmes to help you prepare for learning in a British academic environment and meet your English language requirements. Our presessional courses help you prepare before you start your course, and there is ongoing academic English language support you can access while you study.

International Student Accommodation Guarantee

If you are an international student, we guarantee you a place in University accommodation, as long as you fulfil the full criteria of the guarantee, which includes applying before 1 August each year, and continuing to be classified as international for fees purposes.



Explore our University from home

Explore our campuses from anywhere in the world using our Virtual Open Day: www.southampton.ac.uk/sb/ virtualopenday

Visas

Before you join us, you will need to find out about the UK's immigration procedures well in advance of your arrival in the UK.

Our specialist visas team can help advise and support you; you can find out more on our helpful website.

Fees

We offer fixed fees for international students, so you pay the same annual fee for the duration of your course. We also make it easy to pay your fees online, or from your sponsor or funder.

More information on fees and funding can be found on our website.

01 Enjoy the buzz of events on Highfield Campus.

- o2 Meet with friends between lectures on Highfield Campus.
- o3 Buy fresh food at the weekly market on Highfield Campus.
- 04 Have fun at the silent disco at the Freshers' Ball.

Find out more: www.southampton.ac. sb/international

ACCOMMODATION

Welcome to your home from home. Our accommodation is the ideal place to make new friends, experience student life, grow your confidence, and learn to be independent.

Just some of the benefits of

→ a friendly student community and

utility bills, internet, contents insurance and, for halls in

great transport links with our

campuses

social spaces

on all sites

competitive prices (which include

Southampton, a Unilink bus pass)

 \rightarrow on-site facilities including common

rooms, launderettes, study and

 \rightarrow year-round, 24-hour support from

→ catered and self-catered options

our Student Life team

 \rightarrow 24-hour security and CCTV

living in halls include:

All of our halls provide excellent facilities, a guaranteed offer of accommodation* in your first year at the University, and 24-hour support and advice.

Enjoy living in great locations in Southampton, with easy access to our campuses and facilities. Some are within walking distance of Highfield Campus, while others are closer to the vibrant city centre.

You can choose from a range of room types, including en suite or non-en suite, and catered or self-catered.

We also have rooms to suit all needs, including accessible adapted rooms, couple and family accommodation, and spaces specifically for mature undergraduate and postgraduate students.

How to apply

You can apply for your accommodation when applications have opened and you have received your formal offer of study with your student identification number (the eight-digit number given to you by the University).

Find out more and apply on our website.

FEBRUARY/ **MARCH 2021**

Accommodation application opens and goes live online

APPLICATION TIMELINE

before 31 May 2021

JUNE/JULY 2021 Allocation and offer of

rooms starts for deferred students and students with unconditional offers, who have applied for accommodation guarantee

1 AUGUST 2021

MID New students must have **SEPTEMBER** applied for accommodation 2021 before this date to be eligible for our accommodation Allocation of rooms completed **MID AUGUST** 25-26 2021 After A level results.

allocation of rooms

to all students begins

SEPTEMBER 2021 Arrivals weekend



Stay in one of over 6.400 student rooms









Watch our video 'Accommodation your home away from home' at www.southampton.ac.uk/sb/ lifeinhalls

APPLYING AND FUNDING

How and when to apply

- → Applications should be submitted via UCAS (www.ucas.com).
- → Our institution code is S27 and our code name is SOTON.
- → The applications open in early September.
- → The deadline for medicine is 15 October.
- → The equal consideration date for all other programmes is 15 January. (Please note that this does not apply to international applicants.)
- → The deadline for applications is 30 June, although we strongly advise you to apply as early as possible as some courses may no longer have vacancies after the January equal consideration date.

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Tuition fees and funding

The University will set fees for 2021/22 subject to any conditions imposed by government. Currently the tuition fee is £9,250*, but we offer a large number of generous fee waivers and bursaries for eligible students. For students from lower income families, these financial packages will be based on household income supplied to us by the Student Loans Company.

If you are funding your own studies, you will need to pay your fees in advance, or you can choose to pay your fees in three instalments on the first day of each term to help spread the cost across the year.

Visit our website for the latest information on tuition fees before you submit your UCAS form for entry in the 2021/22 academic year. Students who have applied for a deferred place in 2020/21 will be eligible for the 2021/22 tuition fees and support.

If you are a UK student starting a higher education course in 2021/22, you can apply for loans to help pay for both fees and living costs. For more details, visit **www.southampton.ac.uk/sb/ fees**



EU student fees

At the time of print the UK government has not confirmed whether students from the EU will be eligible for UK or international fees. Up-to-date information about fees can be found on our website.

Channel Islands/ Isle of Man student fees

Channel Islands and Isle of Man students will be charged the same tuition fee as UK students.

International student fees for 2021/2022

All programmes in Social Sciences, and Arts and Humanities: £18,520 per year All programmes in Engineering and Physical Sciences: £22,760 per year Foundation Year in Engineering and Physical Sciences, and Environmental and Life Sciences: £19,500 per year All programmes in Environmental and

Life Sciences: £22,760 per year

International student fixed fees

International students commencing their programme of study in 2021 will pay the same fixed fee for each year of their programme, with the exception of programmes where a combination of clinical and nonclinical fees apply. In these instances, the non-clinical fixed fee will apply for years one and two, and the clinical fixed fee will apply for the remainder of the programme. As with other UK medical courses, these fees may be subject to an additional charge for clinical placement in the NHS, decided by the UK Government Students commencing a Foundation Year will pay less for their Foundation Year than for the rest of their integrated degree.

EPQ

Our research-led approach to learning is reinforced in the value we place on an Extended Project Qualification.

As the first university to formally recognise the EPQ in its admissions offer scheme, we have always recognised that skills gathered through independent project work and research will enhance and prepare you for your university experience. Equivalent to half an A level, an EPQ requires students to complete a selfdirected and self-motivated project on a topic of their choice.

On most of our courses applicants offering an EPQ will be made two offers – our typical offer based on three A levels, and an alternative where, in exchange for an A or A* in the EPQ, we will reduce the A level requirements by one grade. For example, a typical offer of AAA would be made alongside an offer of AAB, plus an A in the EPQ.

We also provide free online support on developing EPQ research projects.

Scholarships and bursaries

We offer a variety of scholarships and progression awards to the most talented students across our subject areas.

We also offer a range of bursaries designed to help UK undergraduate students in the most financial need.**

> Find out more: www.southampton.ac.uk/ sb/fees

Physics and Astronomy

We are usually able to offer a £5,000

entrance exam, which is awarded to

the top five candidates in the exam.

Students sit the scholarship exam at

a Visit Day. At the time of producing

this will work for our 2021 students

but will do our best to find a way.

applicants when we know more:

www.phys.soton.ac.uk/

this brochure we don't yet know how

due to the ongoing Covid-19 situation

Please keep an eye on our website for

more information and we will contact

undergraduate/money_matters

a year scholarship based on a pre-

Achievement Award

**This statement is correct at the time of publication, but is subject to change

HOW TO FIND US

Southampton is a thriving, modern city, steeped in history and culture.

Just over an hour south of London, Southampton has excellent transport

links with the rest of the UK.



University of Southampton

University Road, Southampton SO171BJ, UK T:+44 (0)2380595000 www.southampton.ac.uk



Find out more:

SOUTHAMPTON

Glasgow (

Relfas

Edinburgi

London

SOUTHAMPTON

www.southampton.ac.uk/sb/ campuses

TERMS AND CONDITIONS

The University's Charter, statutes, regulations and policies are set out in the University Calendar and can be accessed online at www.calendar.soton.ac.uk

Terms of use

This prospectus does not constitute an offer or invitation by the University of Southampton to study at Southampton. It provides an overview of the University and life at Southampton, along with information about all the undergraduate programmes available at the time of publication. This is provided for information purposes only. Applications made to the University should be made based on the latest programme information made available by the University. Relevant weblinks are shown throughout. Please also consult the programme information online for further details or for any changes that have appeared since first publication of the prospectus.

The information contained in the prospectus, welcome guides or on our websites is subject to change and may be updated by the University from time to time to reflect intellectual advances in the subject, changing requirements of professional bodies and changes in academic staff members' interests and expertise. Changes may also occur as a result of monitoring and review by the University, external agencies or regulators.

Programme Validation

Validation is the process by which the University approves its programmes of study. Any taught undergraduate and postgraduate programme leading to a University of Southampton award, including research degrees with a taught component (eg Engineering Doctorate) are required to go through Programme Validation. The full validation process can be found in the University's Quality Handbook: www.southampton.ac.uk/quality

1. Change or discontinuance of programmes

The University of Southampton will use all reasonable efforts to deliver advertised programmes and other services and facilities in accordance with the descriptions set out in the prospectuses, student handbooks, welcome guides and website. It will provide students with the tuition and learning support and other services and facilities so described with reasonable care and skill. We undertake a continuous review of our programmes.

We dinder take a continuous review of our pipe animes services and facilities to onsure quality enhancement. We are largely funded through public and charitable means and are required to manage these funds in an efficient and cost-effective way for the benefit of the whole of the University community. We therefore, reserve the right where necessary to:

- alter the timetable, location, number of classes, content or method of delivery of programmes of study and/or examination processes, provided such alterations are reasonable
- make reasonable variations to the content and syllabus of programmes of study (including in relation to placements);

 - suspend or discontinue programmes of study (for example, because a key member of staff is unwell or leaves the University)

 make changes to our statutes, ordinances, regulations, policies and procedures which we reasonably consider necessary (for example, in the light of changes in the law or the requirements of the University's regulators).
 Such changes if significant will normally come into force at the beginning of the following academic year or, if fundamental to the programme, will normally come into force with effect from the next cohort of students
 close programmes of study or to combine or merge than with theme (fees summale, heaving the feruge)

them with others (for example, because too few students apply to join the programme for it to be viable)

However, any revision will be balanced against the requirement that students should receive the educational service expected. The University's procedures for dealing with programme changes and closures can be found in our Quality Handbook at **www.southampton.ac.uk/quality**

If the University closes, discontinues or combines a programme of study or otherwise changes a programme of study significantly (the 'Change'), the University will inform applicants (or students where relevant) affected by the Change at the earliest possible opportunity. a. If the Change comes into force **before** the University

- has made an **offer** of a place or before an applicant has made an **offer** of a place, an applicant will be entitled to withdraw his or her application, without any liability to the University, by informing the University in writing within a reasonable time of being notified of the Change.
- b. If the Change comes into force after an offer has been accepted but prior to the student enrolling, the student may either:
- i) withdraw from the University and be given an appropriate refund of tuition fees and deposits, or
 ii) transfer to another available programme (if any) as may be offered by the University for which the student is qualified

If in these circumstances the student wishes to withdraw from the University and to apply for a programme at a different university, the University shall use its reasonable endeavours to assist the student.

c. If the Change comes into force **after** a student has **enrolled**, the University will use reasonable endeavours to teach the programme out but cannot guarantee to do so. If the University cannot teach out a programme of study, it will use its reasonable endeavours to facilitate the transfer of a student to an equivalent programme for which the student is qualified and which has places available within the University or at a different university. Any revision will be balanced against the requirement that students should receive the educational service expected. All changes will be managed in line with our Student

All changes will be managed in line with our Student Protection Plan.

2. Changes to services or facilities

The University will make available to students such learning support and other services and facilities as it considers appropriate, but may vary what it provides from time to time (for example, the University may consider it desirable to change the way it provides library or IT support).

3. Financial or other losses

The University will not be held liable for any direct or indirect financial or other losses or damage arising from such closures, discontinuations, changes to or mergers of any programme of study, service or facility. Upon acceptance by an applicant of an offer of a place at the University, the relationship between the applicant and the University becomes contractual. When the contract is formed between the student and the University it will last for the relevant academic year only unless the student withdraws from the programme or the programme is terminated.

Please note: the right of a student to withdraw from a programme of study under the provisions set out in paragraph to above following a Change are in addition to any statutory rights of cancellation that may exist under the Consumer Contracts (Information, Cancellation and Additional Charges) Regulations 2013. In entering into that contract, the terms of the contract will not be enforceable by any person not a party to that contract under the Contracts (Rights of Third Parties) Act 1999.

Student Protection Plan As a registered provider of higher education with

As a registered provider of higher education with the Office for Students, we have a Student Protection Plan (SPP) in place, which sets out what students can expect to happen should a course or campus close. The purpose of this plan is to ensure that students can continue and complete their studies, or can be compensated if this is not possible. Full details of the plan can be found at www.southampton.ac.uk/protection-plan

Force majeure

The University will not be held liable for any loss, damage or expense resulting from any delay, variation or failure in the provision of programmes of study, services or facilities arising from circumstances beyond the University's reasonable control, including (but not limited to) war or threat of war, riot, civil strife, terrorist activity, industrial dispute, natural or nuclear disaster, adverse weather conditions, interruption in power supplies or other services for any reason, fire, boycott and telecommunications failure. In the event that such circumstances beyond the reasonable control of the University arise, it will use all reasonable endeavours to minimise disruption as far as it is practical to do so provided that such endeavours do not undermine the University's Quality Assurance requirements.

Admissions Policy and complaints

The University will assess applications in line with its then current Admissions Policy. This policy is reviewed at least annually. The Admissions Policy, current at the time of publication, is published online and is available at www.calendar.soton.ac.uk/sectionIV/

www.calendar.soton.ac.uk/sectio admissions.html

Before you apply please see subject websites listed for subject-specific terms and conditions. Applicants may raise complaints related to admissions under the University's Regulations Governing Complaints from Applicants, which can be found at

www.calendar.soton.ac.uk/sectionIV/ admissions.html

Further information about or clarification of these procedures is available from the Admissions team, Student and Academic Administration, University of Southampton, Southampton SO171BJ; enquiry@southampton.ac.uk

Data protection

During the application procedure, the University will be provided with personal information relating to the applicant. An applicant's personal data will be held and processed by the University in accordance with the requirements of the Data Protection Act 2018. Please also see our Privacy Notice for Applicants at www.southampton.ac.uk/about/governance/ policies/privacy-notice-applicant.page

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A copy of this prospectus and the University's current information for students with disabilities and specific learning difficulties can be made available, on request, in alternative formats, such as electronic, large print, Braille or audio, and, in some cases, other languages. Published and produced by Communications and Marketing February 2020 Photographs courtesy of Jon Banfield,

Protographs courtesy of Jon Banfield, and staff and students of the University Design and artwork by WAXsii

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