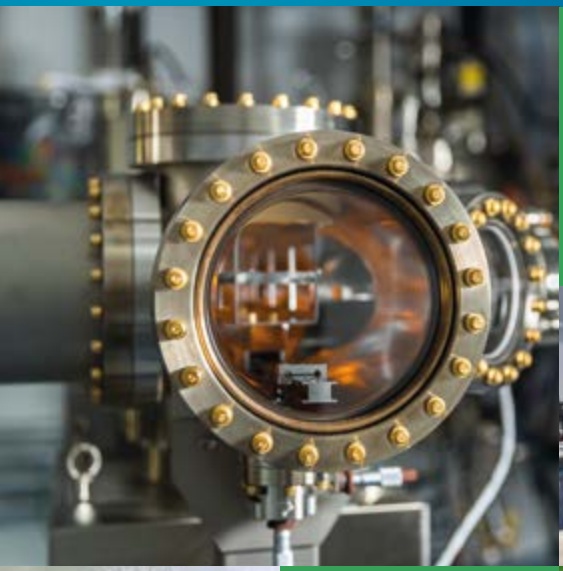
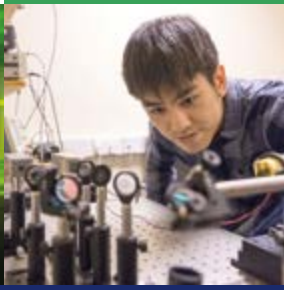
University of Nottingham
UK | CHINA | MALAYSIA

Physics and Astronomy



Discover it

Understand it



nottingham.ac.uk/physics
Undergraduate guide 2019

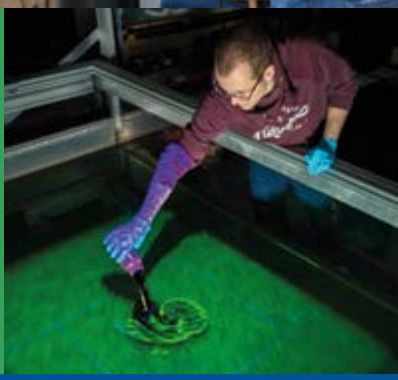
Contents

Contents

50+
research-active members of academic staff
involved in undergraduate teaching

Courses accredited by the Institute of Physics

Study in a **vibrant academic community**



> Physics at Nottingham allows me to see the application of physics in an academic environment and the real world, allowing me to explore all my employment options. The campus is beautiful and there are so many societies to get involved with that there is something for everyone. Nottingham is always buzzing with excitement and the city is so close by.
>
> Shivani Dave, MSci Physics

Lab support from dedicated teaching technicians

Ranked joint third in the UK for research*

* Research Excellence Framework, 2014.

Modern teaching and **learning environment**

Studying physics and astronomy at Nottingham

Students have been coming to Nottingham to learn about physics since the University was founded in 1881. The first professor was Sir Ambrose Fleming, of left- and right-hand rule fame, who insisted that good teaching and high-quality original research were to have equal priority; a balance that we still strive to maintain.

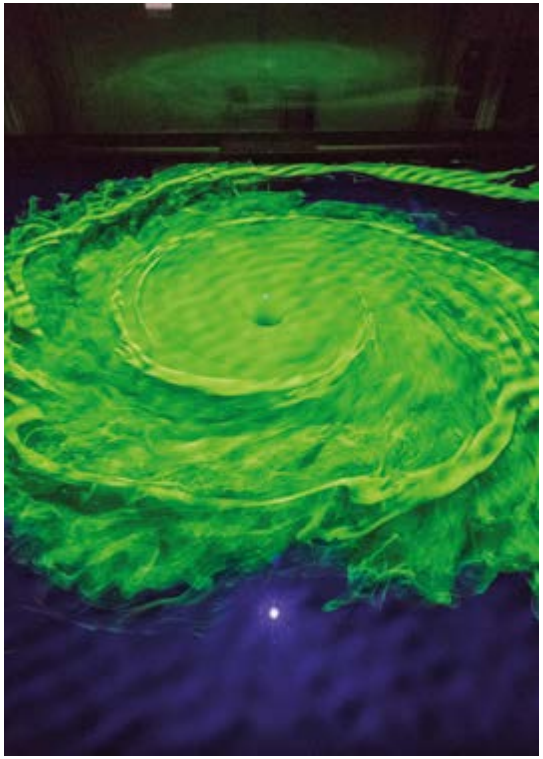
Investments in the school

The school is well equipped with all the facilities needed to provide a modern teaching and learning environment. We use a variety of teaching styles, including interactive lectures, to enliven undergraduate learning. There are specific laboratories for each year group, each supported by a dedicated teaching technician.

Research excellence

We were ranked equal third of all physics departments in the UK for our research in the Research Excellence Framework, (REF 2014). This assesses both the quality of recent research as well as the impact the school's research has had on society.

You will be taught by those who are working at the forefront of the subject. You will get plenty of opportunities to be involved in projects, optional modules and summer internships. We have more than 50 research-active members of academic staff, who are closely involved in undergraduate teaching.



Personal tutors

You will be assigned a tutor who will guide your studies and take an interest in your academic progress and personal well-being. You will meet your tutor each week in year one, to review your work and answer questions on your lectures.

Our courses

Degree title	UCAS code	Duration	A levels	IB
Single honours				
BSc | MSci Physics	F300/F303	3/4 years	A*AA-AAA^	38†
BSc | MSci Physics with Astronomy	F3F5/F3FM	3/4 years	A*AA-AAA^	38†
BSc | MSci Physics with Nanoscience	F390/F391	3/4 years	A*AA-AAA^	38†
BSc | MSci Physics with Medical Physics	F350/F371	3/4 years	A*AA-AAA^	38†
BSc | MSci Physics with European Language	F3R9/F3RX	3/4 years	A*AA-AAA^	38†
BSc | MSci Physics with Theoretical Physics	F344/F340	3/4 years	A*AA-AAA^	38†
BSc | MSci Physics with Theoretical Astrophysics	F346/F345	3/4 years	A*AA-AAA^	38†
BSc | MSci Chemistry and Molecular Physics	FF31/FFH1	3/4 years	AAB^^	34**
BSc | MSci Mathematical Physics	F326/F325	3/4 years	A*AA-AAA^	38†
Joint honours				
BSc Physics and Philosophy	FV35	3 years	A*AA-AAA^	38†
Foundation programmes				
Foundation Engineering and Physical Sciences	H100/H10Y	4/5 years***	BBB^^^	30

^ A* (maths) A (physics) or A*(physics) A (maths) (with an A grade in a third A level subject).
^^ Including chemistry, maths and physics.
^^^ Plus GCSE maths and physics (or double science) at grade 7; GCSE English at grade 5.
** 6 in chemistry, maths and physics, preferably with two at Higher Level.
*** Fully integrated programmes lead to bachelors or masters degree.
† 6,6 at Higher Level in maths and physics.

Applicants taking A level biology, chemistry and/or physics are also required to pass the practical element of assessment (where it is assessed separately).

Foundation courses

Applicants who are not eligible for direct entry to undergraduate study may be able to apply for a foundation course. Find out more at **nottingham.ac.uk/foundationcourses**

English language requirements

IELTS 6.5 (no less than 6.0 in any element)
TOEFL iBT 87 (no less than 20 in speaking and 19 in each other element). For details of other English language tests and qualifications we accept, please see **nottingham.ac.uk/go/alternativerequirements**

Academic English preparation

If you require additional support to take your language skills to the required level, you may be able to attend a presessional course at the Centre for English Language Education, which is accredited by the British Council for the teaching of English in the UK.

Students who successfully complete the presessional course to the required level can progress onto their chosen degree course without retaking IELTS or equivalent.
Find out more at **nottingham.ac.uk/cele**

BSc | MSci Physics

The BSc Physics degree forms the core of our teaching programme. Across the three years you will learn the fundamentals of modern physics, together with the mathematical, practical and computational skills that you will need to fully appreciate the subject.

The four-year MSci degree allows you to cover physics in more breadth and depth than is possible on the conventional BSc degree. To allow you the maximum degree of flexibility in transferring between courses, the first two years of the MSci programme are the same as the BSc.

Year one

The modules in the first year will provide you with knowledge of key physical processes, skills in practical physics for carrying out experiments, and the mathematical tools you will need to derive the theory that underlies the physics.

Year two

You will build on the core skills developed in year one to study aspects of physics including quantum theory, statistical mechanics, solid-state physics, optics and electromagnetism. In addition, you will have the option to specialise and take more advanced modules in aspects of physics that particularly interest you.

Year three

In the third year of the BSc, you will undertake a project in an area that interests you, and apply the theoretical, computational and experimental techniques you have learned to a problem at the cutting-edge of physics. You may also opt to take a module that enhances your written and oral presentation skills.

In the third year of the MSci, much of the core material remains common to the BSc, but MSci students will receive additional support to help them prepare for independent learning in their final year.

Year four (MSci students)

In the fourth year, the traditional structure of lectures, private study and examinations is replaced by continuously assessed team-based activities such as the preparation of scientific reports, problem solving, and student presentations of advanced physics lectures.

The other aspect of the fourth year is a large research project. The innovative style of this project and the quality of the work produced has been highly acclaimed by external examiners. Project sponsors include companies and industry, local hospitals and research institutions as well as leading research groups in the school.

Typical modules

Year one

Core

- From Newton to Einstein
- Computing for Physical Science
- Introductory Experimental Physics
- Quantitative Physics
- Mathematics for Physics and Astronomy
- Frontiers in Physics

Year two

Core

- The Quantum World
- Thermal and Statistical Physics
- Classical Fields
- Wave Phenomena
- Intermediate Experimental Physics

Optional

- The Structure of Stars
- The Structure of Galaxies
- Health Physics
- Force and Function at the Nanoscale
- Molecular Biophysics
- Principles of Dynamics
- Symmetry and Action
- Principles in Physics

Year three

Core

- Physics Project
- Atoms, Photons and Fundamental Particles
- Introduction to Solid State Physics

Optional

- From Accelerators to Medical Imaging
- Atmospheric Physics
- Introduction to Cosmology
- Extreme Astrophysics
- Functional Medical Imaging
- Imaging and Manipulation at the Nanoscale
- Non-Linear Dynamics and Chaos
- Quantum Coherent Phenomena
- Quantum Dynamics
- Soft Condensed Matter
- Semiconductor Physics
- Scientific Computing
- Theoretical Particle Physics
- Theory Toolbox

Year four (MSci only)

Core

- Physics Research Project

Optional

- Gravity
- Politics, Perception and Philosophy of Physics
- Order, Disorder and Fluctuations
- Advanced Topics in Nanoscience Research
- Imaging and Image Processing
- Modern Cosmology
- Quantum Coherent Devices
- Light and Matter
- Quantum Transport
- Research Techniques in Astronomy
- Modern Applications of Physics

Modules may change, for example due to curriculum developments. The above list is a sample of typical modules that we offer, not a definitive list. The most up to date information can be found on our website at **nottingham.ac.uk/ugstudy/physics**

BSc | MSci Physics with Astronomy

These degrees offer a very similar course structure to those of the corresponding physics degrees, as you will receive the core lectures in physics that are common to all single honours physics courses.

We draw on the expertise of the school's internationally known astronomy research group to teach a number of specialised modules. The lectures are backed up by astronomy tutorial classes, practical work and directed reading.

Year one

In the first year, you will take a general introduction to astronomy through the Frontiers in Physics module, which assumes no prior knowledge of the subject.

Year two

You will study the same core modules as BSc Physics, but with astronomy modules, The Structure of Stars and The Structure of Galaxies, replacing two of the options in the BSc Physics degree.

Year three

You will take more advanced modules in Cosmology and Extreme Astrophysics, which are designed to deepen the physical understanding of the basic concepts, and to provide a thorough grounding in most areas of contemporary activity in astronomy.

You will also undertake projects designed to give you hands-on experience of working with astronomical data. The data for these projects is obtained using either the school's optical, solar and radio telescope facilities on the roof of the physics building, or as part of the extensive astronomy research programme in the school. This gives you access to cutting-edge astronomical facilities around the world and in space, such as the Hubble Space Telescope.

Year four (MSci students)

For the MSci, you take synoptic courses that illustrate the interplay between astronomy and other areas of physics, and also undertake a larger project within the astronomy research group.

The structure of the fourth year, with its emphasis on student-centred activity, is very similar to the MSci Physics degree, but focuses this activity in areas of relevance to astronomy as well as physics.

Careers and employability

Many career paths are open to graduates of these degrees, not just astronomical research. Astronomy graduates acquire a wide range of skills in image processing and data analysis, particularly in the maintenance, organisation and processing of large and complex data sets. For this reason, astronomy graduates are much sought after in the industrial and financial sectors.

BSc | MSci Physics with Nanoscience

The Nottingham Nanoscience Group is internationally renowned for its research in areas such as self-assembly and self-organisation, single-molecule manipulation, molecular nanostructures, and soft surfaces and interfaces.

The physics with nanoscience course uses this expertise to provide you with high-quality teaching and training, informed by the latest developments in the field.

Years one and two

Both the BSc and MSci courses provide a sound foundation in physics together with specialised nanoscience modules. Building on a year-one introduction to the fundamental physics and chemistry underpinning the interactions of atoms and molecules, year two covers the key physics underpinning the behaviour of matter at the nano, molecular and atomic levels.

Year three

In year three, the manipulation of matter via directed-assembly will be covered in a module entitled Imaging and Manipulation at the Nanoscale. Scanning probe microscopy (SPM) underpins practically every area of nanoscience, and the use of SPMs to image, move and 'feel' individual atoms and molecules will be covered in considerable depth.

The third year also involves a major project where you will gain hands-on experience of experimental, theoretical or computational research problems in nanoscale physics.

Year four (MSci students)

In the final year of the MSci course, you will have the opportunity to work in a nanoscience research laboratory in the School of Physics and Astronomy. You will get involved in collaborative work with researchers in disciplines other than physics, such as chemistry, pharmacy or materials science.

"This course covers a wide range of material with approachable, supportive professors who give you flexibility to specialise and tune your degree to your specific interests. In my third year I went abroad to Lund University in Sweden. I highly recommend taking advantage of the travel and work experience opportunities offered by the school."

Rikke Plougmann,
MSci Physics with Nanoscience

BSc | MSci Physics with Medical Physics

Both the BSc and MSci degrees have the same physics core as the BSc Physics degree and cover the basic elements of medical physics and biophysics in a coherent, interconnected series of modules. Experience of hospital physics may be gained in practice, together with an insight into medical physics research.

Medical physics modules are supplemented by specialist lectures given by senior practising medical physicists from the adjacent Queen's Medical Centre and from other leading healthcare centres and research institutions.

Year one

The degree follows the same syllabus as the BSc Physics programme with an introduction to medical physics and other cutting-edge research provided by the Frontiers in Physics module.

Year two

The subject is developed through more substantial modules in the second year, which include aspects of molecular biology, biotechnology, the physics of the human body, medical instrumentation, radiation physics and radiotherapy.

Year three

In the third year, the focus is on medical imaging, including magnetic resonance imaging (MRI) in which the school is a world leader – our invention of the technique was recognised with the award of a Nobel Prize. The BSc degree has a project in the Medical School or the Magnetic Resonance Centre, a £5m research annex adjacent to the School of Physics and Astronomy, which houses the sophisticated equipment that MRI requires.

Year four (MSci students)

As in the final year of all our MSci programmes, there are no examinations, with assessments carried out on the basis of mini projects, presentations and similar. The synoptic element is targeted towards subjects of interest to medical physicists, with a module on image processing and analysis. You will also undertake a major research project in a medical physics environment.

Careers and employability

A variety of career paths are open to graduates with these degrees, not just medical physics.

For example, the course forms an excellent base for a career in biotechnology, and occupational or environmental monitoring. Students are frequently inspired to study for a research degree in this area; research studentships are often available at the school and many former students have built distinguished academic and industrial careers via this route.

BSc | MSci Physics with European Language

The aim of these courses is to provide a broad and challenging programme in physics together with training in a second European language.

Years one and two

The first and second years are very similar to the BSc Physics degree, but your chosen language is also studied in the University's Language Centre.

Year three

The third year is spent abroad studying physics in an overseas university in your chosen language, and all classes and examinations will be in that language. We maintain frequent contact with you during your year abroad, to support you during your studies.

At the present time, we have ongoing integrated courses in France, Switzerland, Germany and Spain. If you are interested in studying a European language not covered by these institutions, we are happy to make the necessary arrangements.

Year four (BSc students)

The fourth year will follow a similar pattern to the third year of the BSc Physics degree.

Year four (MSci students)

You will choose your modules for the fourth year following on from the topics studied abroad.

"Studying physics at Nottingham is great! You are part of a really open, friendly department, the campus offers beautiful surroundings to work in and there's always something interesting going on in town."

Keir Birchall, MSci Physics

BSc | MSci Chemistry and Molecular Physics

The School of Physics and Astronomy and the School of Chemistry have jointly developed the chemistry and molecular physics degrees, with a strong emphasis on the inter-relationship between the basic disciplines of chemistry and physics.

The courses offer a rare opportunity for an integrated study of molecular and solid-state physics, quantitative aspects of chemistry, and the application of modern instrumental techniques; this combination has proved very popular with students and employers alike.

Year one

In the first year, modules in physics, chemistry and mathematics are taken in common with other students registered on physical science degree courses. This allows for maximum flexibility; a final choice of BSc or MSci, physics, chemistry or chemistry and molecular physics can be made after the first-year examinations.

Year two

The topics covered in the second year include atomic and molecular spectroscopy, quantum mechanics, quantum chemistry and bonding, classical fields, chemical reaction kinetics, physical aspects of organic chemistry, interfaces, electrochemistry and thermodynamics. Laboratory sessions are conducted in both schools to develop experimental skills in physics and chemistry.

Year three

In the third year, core lectures are attended in which the unified theme of chemistry and molecular physics is developed. You can also choose from a range of specialised modules, which cover topical subjects in depth. The practical components comprise a 10-week laboratory project and a major literature review exercise.

Year four (MSci students)

The four-year MSci course is designed to cover the subjects in more breadth and depth than is possible on the BSc course. We also teach you transferable skills in communications and problem solving in innovative ways. A substantial part of the fourth year is spent on an extended experimental or theoretical research project.

> **The course offers a great insight into the hot topics in physics, which I found invaluable in finding my favourite field. The Students' Union and other services have provided me with great opportunities to be involved in something I enjoy and would like to try.**
>
> David Collomb, MSci Physics

BSc | MSci Physics with Theoretical Physics

The BSc and MSci programmes are based on the common core of physics modules, but with no practical work after the first year.

Years one and two

You will study a set of modules that provide knowledge of a wide range of sophisticated theoretical techniques and applications of these mathematical techniques to physical problems.

Year three

In the third year, you will carry out a theoretical physics project. You will be able to choose from a range of modules in topics such as astrophysics, condensed matter physics, and nuclear and particle physics. For the MSci course, you will also be given preparation for the different style of learning in the fourth year, including communication skills training.

Year four (MSci students)

The fourth year follows a similar structure to the MSci Physics degree. The final quarter of the year is dedicated to a major project carried out in small groups. These projects are based around topics drawn from the broad range of leading theoretical physics research undertaken at the school.

BSc | MSci Physics with Theoretical Astrophysics

These degrees follow the same structure as the physics with theoretical physics programmes. In addition to the core theoretical physics elements, you will take the astrophysics modules from the physics with astronomy programme.

This combination of material will provide you with a thorough grounding in theoretical astrophysics, providing an excellent springboard for those who plan to pursue research in this area, as well as those interested in theoretical astrophysics but are looking at the broad range of careers available to graduates with a physics degree.

Year three

The final-year project work in these degrees will allow you to get involved in the theoretical astrophysics research undertaken in the school. This includes both analytic and large-scale computational studies of everything from the fluctuations in the microwave background radiation to the formation of large-scale structures in the universe.

Year four (MSci students)

The synoptic element brings together the advanced theoretical physics and the astrophysics. You will also undertake a major research project, working on a cutting-edge problem in theoretical astrophysics.

There are so many great things about studying here! The course offers both the depth and breadth of physics I wanted all taught by enthusiastic lecturers. On top of this, opportunities through both the department and the university have meant I've had plenty of new and exciting experiences during my time here.

Emma Woods, MSci Physics

BSc | MSci Mathematical Physics

Ever since Newton invented calculus to develop his theories of motion and gravity, mathematics and physics have been linked.

Students on our BSc and MSci programmes in mathematical physics study modules taught by the School of Physics and Astronomy and the School of Mathematical Sciences that provide a thorough background in the mathematical techniques and concepts physicists and mathematicians use today.

There are no laboratory modules in our mathematical physics courses. Transfer from the mathematical physics degrees to single-honours physics, physics with theoretical physics or mathematics is possible at the end of the first year.

Year one

In the first year, you will study core physics modules in classical and relativistic physics, along with modules in Calculus, Linear Mathematics and Analytical and Computational Foundations of Mathematics that are core to our mathematics degrees.

Year two

In year two, you will learn about many of the classic theories of physics including electromagnetism, quantum mechanics, thermal and statistical physics and optics.

You will also learn about the mathematical language in which these theories are expressed, including vector calculus and Fourier theory and have the opportunity to study some elements of pure mathematics, such as mathematical analysis. There is also the opportunity to take some optional modules according to your interests.

Year three

The BSc programme allows a further range of options to be studied in the final year, along with a project in either physics or mathematics. As part of the third-year project, MSci students receive training in communication skills in preparation for the more student-centred approaches taken in some of the fourth year physics modules.

Year four (MSci students)

The fourth year of the MSci course offers optional modules in topics including black holes, quantum field theory, advanced gravity and theoretical particle physics. It also includes a substantial project in either applied mathematics or theoretical physics.

The staff in the department have given me a lot of freedom which has allowed me to build my degree around my interests. The learning process and the depth that physics extends to is brilliant and I hope to explore this long after I graduate.

Raj Jadav,
BSc Mathematical Physics

BSc Physics and Philosophy

The close links between physics and philosophy go back at least as far as the ancient Greeks. Our joint honours physics and philosophy degree will allow you to explore the rich interplay between these two disciplines.

Year one

In the first year, the modules are divided between physics, philosophy and mathematics. The physics and mathematics modules are the same as those taken by the single honours physics students, which means that transfer between courses is possible.

Years two and three

In the second and third years, physics and philosophy modules are taken in parallel; the workload is equally divided between the two subjects. The physics component consists of an appropriate selection from the modules that make up the single honours physics course, while a wide variety of topics are covered in philosophy, with options ranging from formal logic or the philosophy of science, to Wittgenstein or the philosophy of law.

In order to fit in both subjects, there is no laboratory element to the programme. However, in the final year you will have the choice of undertaking either a dissertation in philosophy or a theoretical project in physics.

Foundation Engineering and Physical Sciences

This course offers an alternative route into studying your degree of choice at university. Designed for talented applicants who are not eligible for direct entry to an undergraduate course, a foundation year enables you to gain the subject-specific knowledge and skills required to embark onto degree-level studies.

Successful completion of this programme may offer progression to almost 90 degree programmes within the following schools at the University:

Physical Sciences:

- Computer Science
- Mathematical Sciences
- Physics and Astronomy

Engineering:

- Architecture and Built Environment
- Chemical and Environmental Engineering
- Civil Engineering
- Electrical and Electronic Engineering
- Mechanical, Materials and Manufacturing
- Engineering

For most routes you are required to pass the foundation programme and obtain a 50% course average at the first attempt in order to progress onto year one of your chosen undergraduate degree. Progression to some degree courses may have additional criteria, restrictions or non-academic requirements. For further information about progression, see **nottingham.ac.uk/go/feps**

How will I study and be assessed?

Typically, you will receive scheduled lectures and problem workshops supported by hands-on laboratory experience and tutorials. Additional directed study and reading will also be recommended. To ensure you make steady progress and achieve the required grades, your learning will be assessed through coursework and examinations.

Engaging study, incredible results

Group teaching sizes are small enough for us to know all of our students as individuals and the total class size is large enough to allow us to offer a wide range of modules. This means that you will be able to tailor your degree to your scientific interests.

Teaching

Typically there are 10 lectures per week including problem sheets and directed reading. You will learn a modern programming language so that you can solve equations and model physical situations. The course structure ensures there are formative assessments throughout the year to help you to guide your studies and gain regular feedback on how you're getting on. If there is something you do not understand, you are always welcome to discuss it with a member of staff.

You will take part in weekly small group tutorials (typically five students), where your tutor will provide support and guidance. The practical modules involve working between three and six hours per week in laboratories, where, in addition to traditional experimental techniques, we emphasise the importance of computer control and simulation throughout the course.

How will I be assessed?

For a typical core module the examination carries a weight of 80%, the remaining 20% usually being allocated for regular coursework and workshop assignments throughout the year. Experimental and other practical work is continually assessed through laboratory notebooks and formal reports.

Modules and credits

Tailor your single honours degree programme to your own interests by selecting credits that you want to study. You can use this flexibility to explore aspects of physics that interest you in greater depth.

We offer a range of module options, including:

- Astronomy
- Atmospheric Physics
- Biophysics
- Chaos and Non-Linear Physics
- Computational Physics
- Cosmology
- Extreme Astrophysics
- Medical Imaging
- Medical Physics
- Nanoscience
- Particle Physics
- Principles of Dynamics
- Quantum Optics
- Semiconductor Devices
- Structure of Stars and Galaxies

You are also free to choose 10 credits per semester from elsewhere in the University; you might want to improve your future employability with modules in a language or business skills, or you could choose to pursue an interest in anything from archaeology to zoology.

Outstanding careers support

Physics is a fundamental subject that serves as a foundation for most areas of science and engineering. Due to their training, physicists are adaptable and proficient at mathematics and problem solving. Employers see a physics graduate as someone who has demonstrated an ability to work through a demanding course of study and who has gained a wide variety of transferable technical skills.

The range of careers enjoyed by our graduates, and their success in finding lucrative positions, are measures of just how many employers appreciate the value of a physics degree.

Recent graduate destinations:

- postgraduate study
- science
- engineering
- financial sector
- management roles
- teaching
- law
- meteorology
- media

Amplify your potential

Whether you already have a plan or need some inspiration, your Careers and Employability Service is here to help.

Academic excellence and employability go hand in hand at Nottingham. Your course, and the diverse student experiences we offer, will enable you to develop the skills and professional competencies required to thrive in the job market of the future.

We will help you explore your options, so you feel confident making choices about what you want to achieve. Our team will support you as you build your CV, search for jobs, prepare applications, practise your interview technique, and much more.

Get the Advantage

The career-enhancing Nottingham Advantage Award recognises and rewards your extracurricular activities. With a choice of over 200 modules, you can hone the key skills employers are looking for. From developing your leadership skills and learning a language to public speaking and volunteering, you will leave university with demonstrable experience that sets you apart from other graduates. For further information, visit **nottingham.ac.uk/careers/advantage**

@UoNCareers
CareersUoN

How to apply

Around one-third of our UK students receive our means-tested core bursary, worth up to £2,000 a year (2018 entry figure; subject to change). For details, see **nottingham.ac.uk/financialsupport**

All applications for undergraduate study at Nottingham, including applications by international students, must be made through UCAS.

You can apply online at **ucas.com** and will be notified of decisions through UCAS Track.

Your personal statement

This is the section of your UCAS form that tells us most about you, and you should make the best use of it. Be as specific and detailed as you can – we would like to see that you are a student who can work hard, be self-motivated and make the best possible use of the opportunities that our courses offer you. We would also like to hear about any skills you have gained through extracurricular activities.

Minimum entry requirements

Unless otherwise stated in individual course profiles, all UK applicants should have GCSE English grade 4 (C) as a minimum.

Alternative qualifications

In this brochure you will find our A level and International Baccalaureate entry requirements but we accept a much broader range of qualifications. For more details, visit **nottingham.ac.uk/ugstudy/applying**

GCSE reform

Following the reform of GCSE grading in England from A*–G to 9–1, we have adopted Ofqual's recommended equivalence. This means that GCSE grade A*=9, A=7, B=5/6 and C=4. GCSE qualifications taken outside of the UK will still be graded A* to G.

Flexible admissions policy

In recognition of our applicants' varied experience and educational pathways, we employ a flexible admissions policy. If we judge that your situation has adversely affected your achievement, then we will consider this when assessing your academic potential. Some courses may make a slightly lower offer. For more information about this policy, see **nottingham.ac.uk/ugstudy/applying**

Mature applicants

We encourage applications from mature applicants who have a significant gap in education. You should apply through UCAS. Find out more at **nottingham.ac.uk/mature**

International applicants

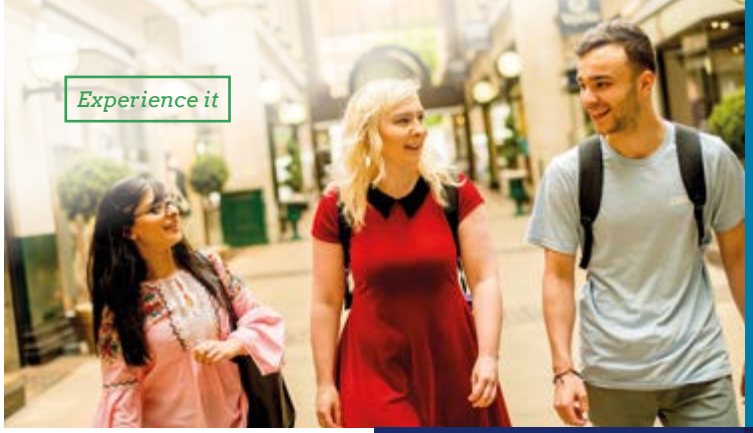
The University provides a range of information and advice for international applicants. If you are unable to attend an open day, we can meet you in your country at one of our overseas events or arrange an individual visit to the University. For further information please visit **nottingham.ac.uk/go/international-applicants**

Deferred entry

Applicants who wish to defer their entry by a year will not be at a disadvantage. Please tell us something about your plans for your gap year in your UCAS personal statement.

Equal opportunities policy

The University aims to create the conditions whereby students and staff are treated solely on the basis of their merits, abilities and potential, regardless of gender, race, colour, nationality, ethnic or national origin, age, socio-economic background, disability, religious or political beliefs, trade union membership, family circumstances, sexual orientation or other irrelevant distinction.



Live and study abroad as part of many courses

nottingham.ac.uk/studywithus/studyabroad

Accommodation to suit every budget and personal choice

nottingham.ac.uk/accommodation

10 minutes from the city for music, food and shopping

nottingham.ac.uk/nottinghamlife

200+ student-led groups, clubs and societies at your Students' Union

su.nottingham.ac.uk

One of the UK's leading universities for sport* with over **70 student sports clubs**

nottingham.ac.uk/sport

* British Universities and Colleges Sports Standings, 2016-17.

Student Service Centres on all **UK campuses** for support and advice

nottingham.ac.uk/studentservices

Join in with the vibrant musical life on campus and in the city

nottingham.ac.uk/music/performance

Choose from **9 modern languages** to study alongside your course

nottingham.ac.uk/language-centre

University of Nottingham
UK | CHINA | MALAYSIA

For undergraduate enquiries contact:
Student Recruitment Enquiries Centre

+44 (0)115 951 5559

nottingham.ac.uk/contact

Nottinghamphysics

UoN_Physics

nottingham.ac.uk/physics

This publication is available in alternative formats: +44 (0)115 951 5559

This brochure has been drafted in advance of the academic year to which it applies. Every effort has been made to ensure that the information contained in this brochure is accurate at the time of publishing, but changes (for example to course content) are likely to occur given the interval between publication and commencement of the course. It is therefore very important to check our website for any updates before you apply for the course by following **nottingham.ac.uk/ugstudy**. Where there is a difference between the contents of this brochure and our website, the contents of the website take precedence.