Foundation Engineering and Physical Sciences

This course offers an alternative route into studying your degree of choice at a world-class 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.

www.nottingham.ac.uk/go/foundationcourses
With over 100 years of engineering expertise, the Faculty of Engineering at Nottingham is known for its world-class research, inspirational teaching, and diverse academic community. All teaching is carried out by highly experienced staff from the Faculty of Engineering and the Schools of Computer Science, Mathematical Sciences, and Physics and Astronomy.

### Modules

There are certain core (compulsory) modules such as computing and mathematics that all students study. The optional modules vary from year to year. Typical modules may include:

**Foundation Mathematics 1 and 2** (20 credits each – core)
You will develop your mathematical knowledge and understanding of mathematical processes to help solve basic problems in engineering and science. These modules provide you with techniques in basic and advanced algebra, complex numbers, coordinate geometry and trigonometry, and calculus.

**Study Skills (10 credits – core)**
This module develops study skills, improving your awareness of research and communication methods, referencing, and presentation skills.

**Computer Methods (10 credits – core)**
This module involves the use of a software environment (MATLAB) to help solve engineering and mathematical problems. MATLAB is a powerful mathematical modelling tool used heavily in industry. Topics include; data structures and formats, plotting of graphical data and programming.

**Electrical Circuit Principles / Electricity and Magnetism (10 credits each)**
Providing a basic knowledge of electricity and magnetism, these modules look at a range of component technologies, from inductors and capacitors through to simple semiconductors. In the second semester, topics include; AC circuits, circuit analysis techniques and electrical resonance.

**Foundation Mechanics/Further Mechanics** (10 credits each)
These two modules will introduce you to the concept of scalars and vectors, and give you a broad grounding in the basic response of rigid structures to imposed forces and to linear and circular motion.

**Properties of Matter/Vibration and Waves** (10 credits each)
These engineering physics modules provide a grounding in the physical explanations of vibrations and waves. This will cover the analysis of simple engineering and physical systems. You will also study the atom, atomic structures and behaviour.

**Molecules on the Move/The Universe** (10 credits – core)
An introduction to astronomy, covering general physical principles including cosmology, gravitational fields and orbits, observational techniques in astronomy, and stellar evolution. Molecules on the Move explores the thermal and mechanical properties of matter.

**English for Engineering and Science** (20 credits/10 credits)
International students who require English language support will study these modules. Topics covered include essay writing, laboratory reports and presentation skills.

The modules we offer are inspired by the research interests of our staff and as a result may change for reasons of, for example research developments or legislative changes. The above list is an example of typical modules that we offer, not a definitive list.

www.nottingham.ac.uk/go/foundationcourses
The University of Nottingham is in the top 1% of universities worldwide
QS World University Rankings 2016.

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.

We promote active learning and provide a stimulating and enjoyable learning experience through enquiry and project-based activities, as well as encouraging debate in group discussions. You will work independently and gain experience of working in a team.

To ensure you make steady progress and achieve the required grades, your learning will be assessed through coursework (typically a combination of progress tests, laboratory reports, tutorial exercises and self-directed research projects) and examination.

Supporting you
All students are offered a student mentor and allocated a personal tutor to discuss any issues and provide advice. You will participate in small group tutorials which support you through the transition into university life by building your confidence, helping you develop transferable skills and supporting you in becoming an independent learner. We operate an ‘open door’ policy and students can seek support from tutors throughout the year.

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

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

Physical Sciences:
Computer Science
Mathematical Sciences
Physics and Astronomy

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.

Please note: Progression to some degree courses may have additional criteria, restrictions or non-academic requirements, for further information about progression, see www.nottingham.ac.uk/go/feps
Kim Onjun studied for her first year of her MEng in Mechanical Engineering in the UK, her second at our Ningbo Campus (when she won a BP scholarship for inter-campus exchange for 2013/14) and her third year at our Malaysia Campus.

The foundation year provided me with everything I needed and more, to make sure I had the ability and confidence to enter the first year.

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### Key facts

| UCAS code: | H100/H10Y |
| Course location: | University Park |
| Open to: | UK/EU and international students |
| Course duration: | 4 years (BEng/BSc), 5 years (MEng/MSci), 1 year (Foundation Certificate) |
| Fee (UK/EU students): | £9,000 per year |
| Fee (international students): | £13,360 per year |
| Additional Costs: | No compulsory additional costs |
| A levels: | BBB including; GCSE maths and physics (or double science) at grade B; GCSE English at grade C. For pathway specific requirements, visit [www.nottingham.ac.uk/go/feps](http://www.nottingham.ac.uk/go/feps) |
| International entry requirements: | BBBBB (IGCSE/O level) or international GCSE/year 11 school certificate equivalent – for country specific requirements, visit [www.nottingham.ac.uk/go/yourcountry](http://www.nottingham.ac.uk/go/yourcountry) |
| English language requirements: | IELTS 5.5 with no less than 5.0 in any band |

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Get in touch:

Facebook: [NottinghamEngineering](https://www.facebook.com/NottinghamEngineering)  Twitter: [@UoNEngineering](https://twitter.com/UoNEngineering)

Make an enquiry:

[www.nottingham.ac.uk/enquiry](http://www.nottingham.ac.uk/enquiry)

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This flyer 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 flyer 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 [www.nottingham.ac.uk/ugstudy](http://www.nottingham.ac.uk/ugstudy). Where there is a difference between the contents of this flyer and our website, the contents of the website take precedence.

[www.nottingham.ac.uk/go/foundationcourses](http://www.nottingham.ac.uk/go/foundationcourses)